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CPYRGHT

VOL. 33

SEPTEMBER 1957

NO. 9

# BULLETIN

OF THE NEW YORK  
ACADEMY OF MEDICINE



*Original Article by*

GREGORY PINCUS

COMMUNIST METHODS OF  
INTERROGATION AND INDOCTRINATION

*Panel Meeting*

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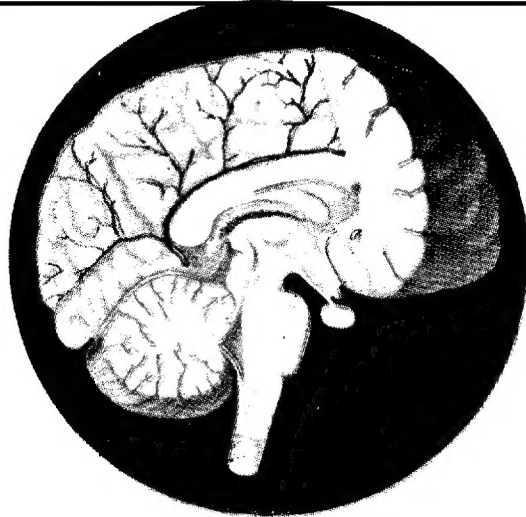
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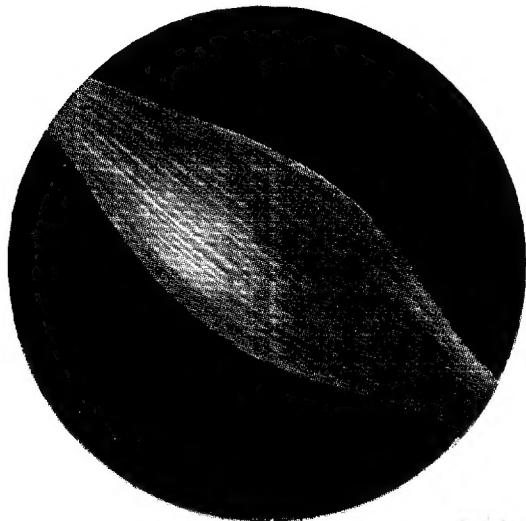
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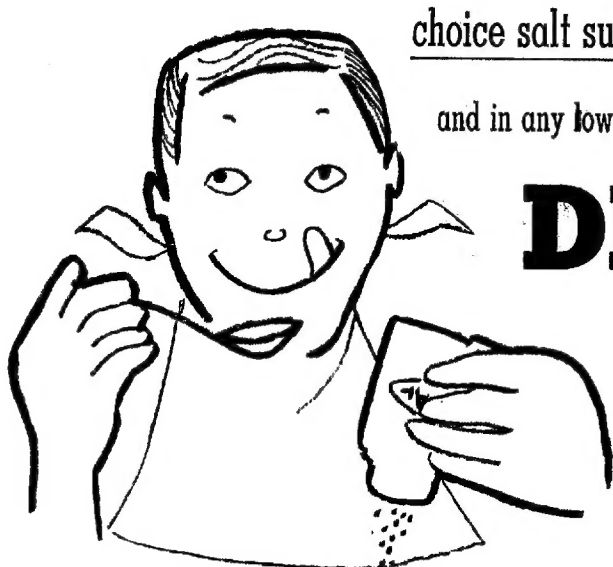


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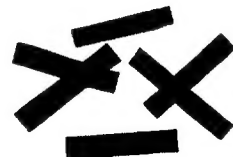
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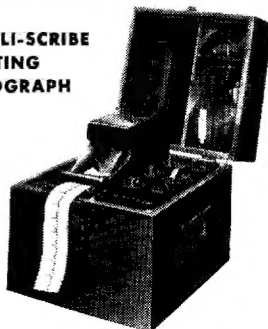
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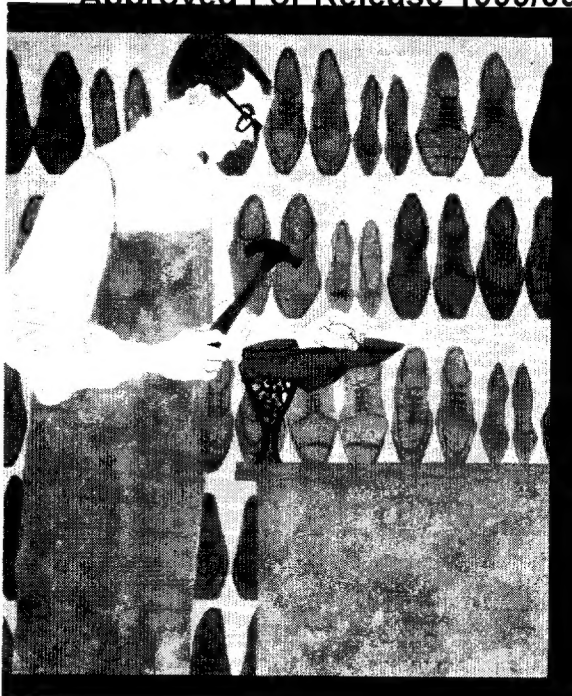
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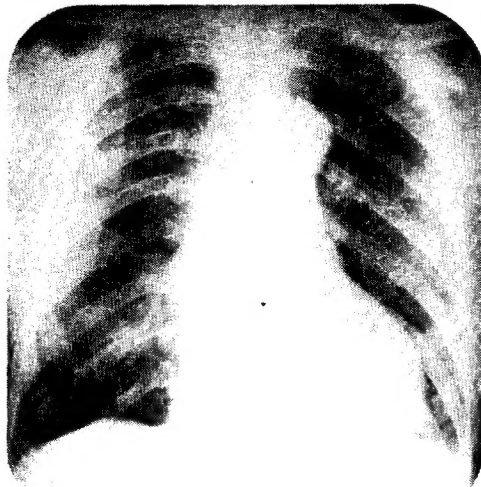
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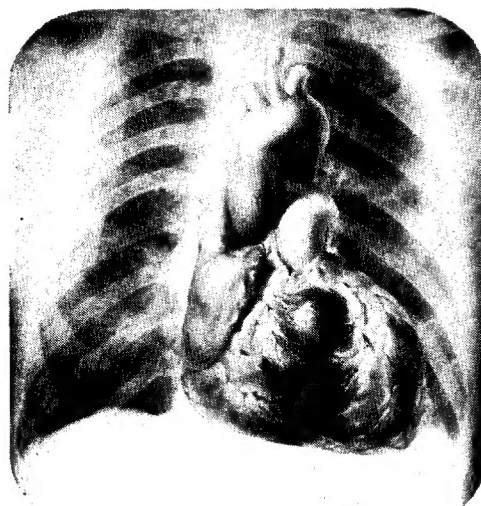
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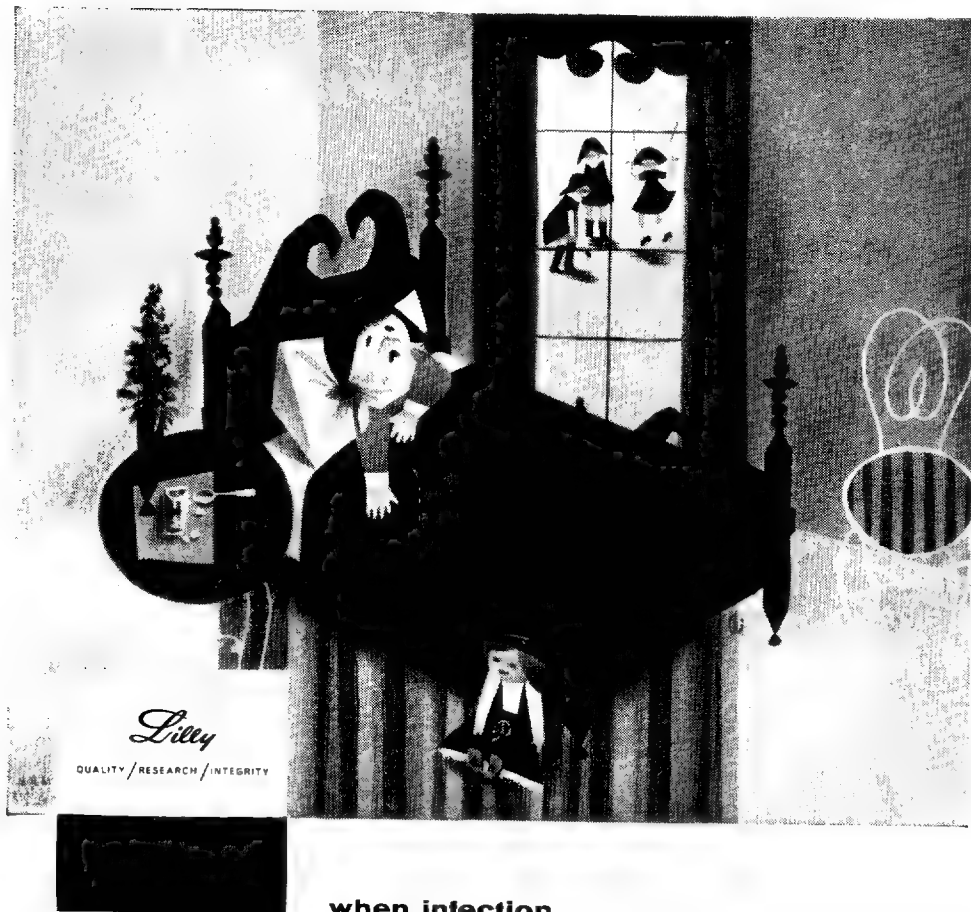
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SEPTEMBER 1957

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VOL. 33, NO. 9

SEPTEMBER 1957

THE BIOSYNTHESIS OF  
ADRENAL CORTICAL STEROIDS\*

GREGORY PINCUS, SC. D.

Research Professor of Biology, Boston University, Boston, Massachusetts; Director of  
Laboratories, Worcester Foundation for Experimental Biology, Shrewsbury, Massachusetts

INTRODUCTION

**I**N 1943 Reichstein and Shoppee<sup>1</sup> reviewed approximately a decade of investigation on the chemistry of steroid substances obtained by extraction from adrenal tissue. They listed twenty-eight compounds (Table I) which had been identified by various investigators; included were substances with 18 carbon atoms (estrogens), others with 19 carbon atoms (androgens) and a great majority with 21 carbon atoms (progesterone, derivatives thereof and various corticosteroids). To visualize how a secretory tissue might produce such an array of substances was a formidable task. Indeed the possibility that a greater or lesser number of the substances isolated might be artefacts produced by tissue analysis or by the extraction procedures themselves introduced a serious element of uncertainty regarding their physiological reality. Two practically coincidental discoveries made approximately five years later initiated a series of investigations which have answered many of the

\* Presented at the 29th Graduate Fortnight of The New York Academy of Medicine, October 23, 1956.  
From the Worcester Foundation for Experimental Biology, Shrewsbury, Massachusetts.

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G. PINCUS

TABLE I—STEROIDS ISOLATED FROM ADRENAL TISSUE EXTRACTS

No.	Systematic Name (And Trivial Names, If Any)
<i>C<sub>21</sub>O<sub>3</sub> Group</i>	
I	Allopregnan-3 $\beta$ , 11 $\beta$ , 17 $\alpha$ , 20 $\beta$ , 21-pentol
II	Allopregnan-3 $\beta$ , 11 $\beta$ , 17 $\alpha$ , 21-tetrol-20-one
III	Allopregnan-3 $\alpha$ , 11 $\beta$ , 17 $\alpha$ , 21-tetrol-20-one
IV	Allopregnan-3 $\beta$ , 17 $\alpha$ , 21-triol-11, 20-dione
V	$\Delta^4$ Pregnene-11 $\beta$ , 17 $\alpha$ , 20 $\beta$ , 21-tetrol-3-one
VI	$\Delta^4$ Pregnene-17 $\alpha$ , 20 $\beta$ , 21-triol-3, 11-dione
VII	$\Delta^4$ Pregnene-11 $\beta$ , 17 $\alpha$ , 21-triol-3, 20-dione (17 $\alpha$ -hydroxy corticosterone; hydrocortisone)
VIII	$\Delta^4$ Pregnene-17 $\alpha$ , 21-diol-3, 11, 20-trione (17 $\alpha$ -hydroxydehydrocorticosterone; cortisone)
<i>C<sub>21</sub>O<sub>4</sub> Group</i>	
IX	Allopregnan-3 $\beta$ , 17 $\alpha$ , 20 $\beta$ , 21-tetrol
X	Allopregnan-3 $\beta$ , 17 $\alpha$ , 21-triol-20-one
XI	$\Delta^4$ Pregnene-17 $\alpha$ , 21-diol-3, 20-dione (17 $\alpha$ -hydroxy DOC)
XII	Allopregnan-3 $\beta$ , 11 $\beta$ , 21-triol-20-one
XIII	Allopregnan-3 $\beta$ , 21-diol-11, 20-dione
XIV	$\Delta^4$ Pregnene-20 $\beta$ , 21-diol-3, 11-dione
XV	$\Delta^4$ Pregnene-11 $\beta$ , 21-diol-3, 20-dione (corticosterone)
XVI	$\Delta^4$ Pregnene-21-ol-3, 11, 20-trione (11-dehydrocorticosterone)
XVII	$\alpha\beta$ -Unsaturated ketone: (constitution unknown)
<i>C<sub>21</sub>O<sub>5</sub> Group</i>	
XVIII	Allopregnan-3 $\beta$ , 17 $\alpha$ , 20 $\beta$ -triol
XIX	Allopregnan-3 $\beta$ , 17 $\alpha$ , 20 $\alpha$ -triol
XX	Allopregnan-3 $\beta$ , 17 $\alpha$ , diol 20-one
XXI	$\Delta^4$ Pregnene-21-ol-3, 20-dione (17 $\alpha$ -hydroxyprogesterone)
XXII	$\Delta^4$ Pregnene-21-ol-3, 20-dione (11-desoxycorticosterone; DOC)
<i>C<sub>21</sub>O<sub>6</sub> Group</i>	
XXIII	Allopregnan-3 $\beta$ -ol-20-one
XXIV	$\Delta^4$ Pregnene-3, 20-dione (progesterone)
<i>C<sub>19</sub> Group</i>	
XXV	Androstan-3 $\beta$ , 11 $\beta$ -diol-17-one
XXVI	$\Delta^4$ Androstene-3, 11, 17-trione (adrenosterone)
XXVII	$\Delta^4$ Androstene-3, 17-dione (androstendione)
<i>C<sub>18</sub> Compound</i>	
XXVIII	Estrone

Bull. N. Y. Acad. Med.

problems posed by the remarkable but provocative chemical findings reviewed in 1943. The first of these was the development of micro-methods of corticosteroid analysis by paper chromatography;<sup>2</sup> the second was the finding that the isolated perfused bovine adrenal secretes measurable amounts of steroid into the perfusing medium.<sup>3,4</sup> Shortly thereafter certain chemical transformations of steroids found to occur in the perfused adrenal were also demonstrated in tissue slices and homogenates,<sup>5,6</sup> and a demonstration was made that adrenal vein blood in various species contained measurable amounts of identifiable corticosteroids.<sup>7</sup>

On the basis, then, of three experimental procedures, (a) adrenal perfusion, (b) adrenal tissue and enzyme studies and (c) the analysis of adrenal vein blood, a considerable body of data has been documented which is pertinent to the nature of corticosteroid biosynthesis. From these data we may now attempt answers to the following questions: (a) What is the nature of the adrenocortical secretory product? (b) What are the steps in the biosynthetic processes leading to this product? (c) What are the factors remote and intimate controlling the biosynthetic processes? (d) What are the variations in the corticosteroid biosynthesis which may lead to significant physiological change in the organism?

#### THE SECRETORY PRODUCT OF THE ADRENAL CORTEX

A complete catalogue of the steroids secreted by the adrenal cortex into the blood stream cannot now be made, but certain substances are agreed upon as major components of the secretory product. A complicating factor is the fact that species differences undoubtedly exist. This has been principally established by the analysis of adrenal vein blood.<sup>8</sup> Thus cortisol (I) appears to be the major corticosteroid in dog, monkey and human adrenal vein blood<sup>8-11</sup> whereas corticosterone (II) predominates in the rat, rabbit and mouse adrenal venous effluent.<sup>8,12</sup> Actually both I and II have been isolated from human and dog adrenal vein blood. Three other compounds have been established as consistently occurring constituents of adrenal vein blood: 11 $\beta$ -hydroxyandrostenedione (III), aldosterone (IV) and 11-deoxycorticosterone (V). Other compounds which have been identified in adrenal vein blood, and in significantly higher amount than in peripheral blood, are:  $\Delta^4$ -androstenedione (VI), human, 11-deoxycortisol (VII), dog. There is suggestive evidence for

the secretion of additional steroids, e.g., estrogens, dehydroepiandrosterone and certain pregnane derivatives, but positive identification and consistent production have not been established.

In contrast to the studies with adrenal vein blood are those which have been made with isolated perfused adrenals and adrenal tissue slices and homogenates. A much larger number of substances have been observed in the perfusion or incubation media. As examples, I cite  $\Delta^4$ -pregnenolone (VIII), progesterone (IX) and  $17\alpha$ -hydroxyprogesterone (X). These compounds are acknowledgedly precursors (*vide infra*) of the characteristic adrenocortical steroids, e.g., I and II. Nonetheless, their identification in adrenal vein blood has not been made. Does this mean that the adrenal cortex has a capacity for selective secretion? Or is it simply that the rate of chemical transformation of these substances in adrenal tissue is so rapid that the escape of measurable quantities into the blood is not possible? Unfortunately we are faced with several imponderables at this point. First of all, the conditions of gland perfusion and tissue incubation are unphysiological. Secondly, most of the methods of adrenal vein cannulation conducted under surgery have not been precisely physiological (the recent development of methods for the maintenance of an indwelling catheter in conscious animals<sup>13</sup> should be helpful in this problem). Finally, we have no knowledge of the mechanism of the secretion into blood of steroids by any steroidogenic cells.

#### THE BIOGENETIC PROCESS IN THE ADRENAL CORTEX

As a result of intensive investigation during the past several years major synthetic pathways leading to the final secretory products of the adrenal cortex have been defined with some precision. The suggestions arising from the original work with isolated perfused adrenals<sup>14</sup> have been surprisingly well substantiated by subsequent investigations involving the use of  $C_{14}$ -labelled precursors *in vitro* and *in vivo*. In Figure 1 we present certain steroidogenetic sequences which have been substantiated experimentally. Cholesterol has been clearly established as the major precursor of the 21-carbon corticosteroids<sup>15, 16</sup> as well as the 19-carbon adrenal steroids.<sup>17</sup> The scission of its side chain at carbon 20 produces  $\Delta^5$ -pregnenolone, the precursor of the former, and scission at carbon 17 leads to dehydroepiandrosterone production, the probable precursor of the latter. I say probable because despite the demonstration



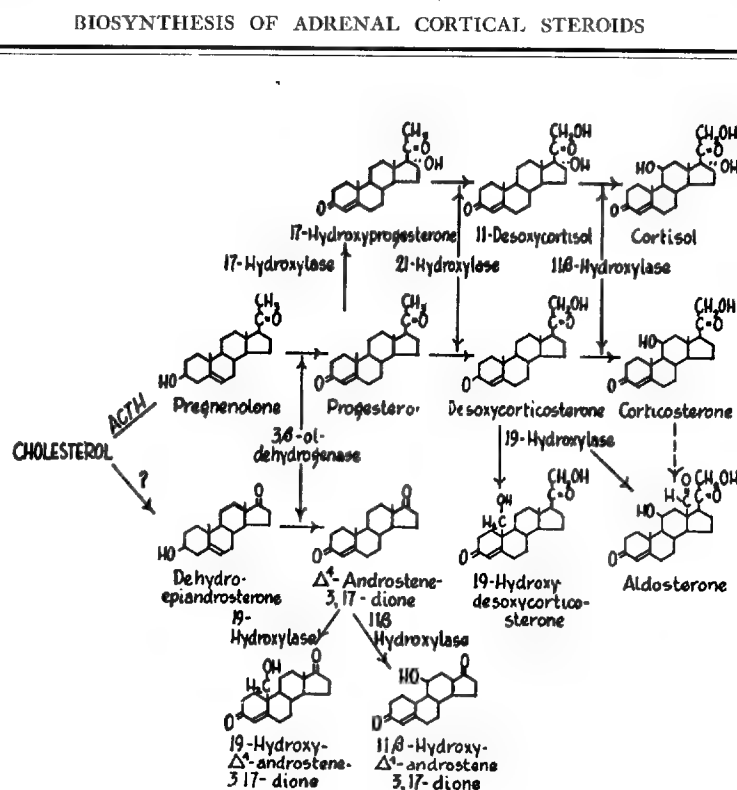


Figure 1—Steroidogenic processes in the adrenal cortex.

of dehydroepiandrosterone production from cholesterol,<sup>17</sup> the origin of 19-carbon steroids from 21-carbon precursors, e.g., from VII or X, cannot be excluded. The recent demonstration that progesterone may act as a 19-carbon precursor in the testis<sup>18, 19</sup> is suggestive in this regard.

The problem of adrenal estrogen synthesis continues unsolved, but three recent findings suggest a logical biosynthetic mechanism. These are: (a) the discovery of 19-hydroxylation in the adrenal cortex;<sup>20-22</sup> (b) the demonstration that 19-hydroxyandrostenedione may be converted to estrogen by placental tissue or follicular fluid;<sup>23</sup> and (c) the demonstration that ovarian tissue may convert testosterone to estradiol.<sup>24</sup> It should be emphasized that a complete synthetic sequence in adrenocortical tissue has yet to be established.

That cholesterol is not an obligatory intermediate in the synthesis of steroids by the adrenal cortex has been suggested by several investigators.<sup>14, 15, 25</sup> Perhaps the most convincing evidence of a cholesterol-independent pathway has been the recent finding by Heard and asso-

ciates<sup>26</sup> that in a hog adrenal preparation various radioactive steroids are synthesized from C<sup>14</sup>-acetate, whereas cholesterol isolated from the same preparation has no radioactivity.

A number of the enzyme systems responsible for the specific transformations occurring in the adrenal cortex have been investigated intensively (cf. Hayano, Saba, Dorfman and Hechter<sup>27</sup>). Most intensively studied has been the 11 $\beta$ -hydroxylase, particularly since it has the surprising capacity to utilize molecular oxygen to effect the hydroxylation of carbon-11 of the steroid nucleus. Recent evidence suggests a similar utilization of molecular oxygen for 17- and 21-hydroxylation.<sup>28</sup> An elucidation of the mechanism of oxygen transfer in this system is awaited with great interest.

#### FACTORS CONTROLLING ADRENAL STEROID BIOSYNTHESIS

The nature and rate of biosynthesis in the adrenal cortex is affected by both intrinsic and extrinsic factors. The intrinsic factors essentially involve the enzyme systems operative in the biosynthetic sequence. Thus, the 11 $\beta$ -hydroxylase is ordinarily present in sufficient concentration not to act as a bottle-neck to the over-all synthetic process. In contrast, the level of activity of the cholesterol-desmolase appears definitely to limit the amount of hormone synthesized.<sup>14, 29</sup> The rate of synthesis of cholesterol itself within the adrenal may be a limiting factor, since pantothenic acid deficient animals appear to be inefficient in corticosteroid production,<sup>30</sup> perhaps by virtue of a diminished coenzyme A concentration which may, in turn, reduce cholesterol synthesis. Similar considerations may apply in special cases to cofactors essential for other adrenocortical enzymes. Thus, triphosphopyridine nucleotide (TPN) is required for 11 $\beta$ -hydroxylase activity<sup>27</sup> and any factors limiting TPN production in the adrenal will obviously limit 11-hydroxylation.

Another intrinsic factor which has been frequently studied is adrenal ascorbic acid. Its role is still not completely understood, but it is clear that it acts as an inhibitor of 11 $\beta$ -hydroxylation and of cholesterol degradation to 21-carbon steroid.<sup>27</sup> It is thus possible that the rapid diminution of ascorbic acid in rat adrenals following secretion-provoking stimuli may involve the removal of a brake to biosynthesis. In certain species, however, adrenal ascorbic acid does not change under secretion-evoking conditions<sup>31</sup> and in ascorbic-acid deficient guinea pigs with practically no adrenal ascorbic acid, steroid biosynthesis proceeds at normal rates.<sup>32</sup>

Since other naturally-occurring adrenal constituents, e.g., glutathione or desoxycorticosterone, may act as enzyme inhibitors they may serve as substitute braking mechanisms. Certainly the role of intrinsic inhibitors requires further study.

Perhaps the most interesting problem relating to intrinsic regulation of steroidogenesis involves the location of the various synthetic enzyme systems within the cell. Hechter and Saba,<sup>33</sup> as well as Hayano and associates<sup>27</sup> have pointed out that: (a) the system responsible for cholesterol side-chain scission is located in the mitochondria; (b) the  $3\beta$ -dehydrogenase which converts pregnenolone to progesterone is isolatable from the "microsomal" fraction; (c) the 17- and 21-hydroxylating systems are localized in the "soluble" (non-particulate) fraction;<sup>34</sup> and (d) the  $11\beta$ -hydroxylating system is primarily mitochondrial.<sup>35</sup> If these systems do indeed operate in the cell areas indicated by these locations (which are determined by differential centrifugation) then a peculiar travel of steroid substrate from mitochondria, to microsomes to extra-particulate loci and back to mitochondria must occur. Smooth operation of biosynthesis on this basis is difficult to visualize, so these authors suggest that actually all of these enzymes in fact function at the mitochondrial surface in adequate approximation, and, in fact, present suggestive evidence for such a synthetic mitochondrial complex.

In considering extrinsic factors regulating adrenocortical biosynthesis, we may fairly dispose of direct nervous control of the adrenal cortex. Not only does *in vitro* synthesis parallel *in vivo* synthesis, but direct attempts to influence *in vivo* synthesis by exciting nervous pathways have failed.<sup>36</sup> The major extrinsic regulator is adrenocorticotrophic hormone (ACTH). ACTH stimulates corticosteroid synthesis both *in vivo* and *in vitro*. The evidence available to date indicates that it primarily promotes some key step in the breakdown of cholesterol to  $\Delta^5$ -pregnenolone. Just how it increases the rate of pregnenolone production is not established. Recent experiments of Haynes<sup>37</sup> indicate that ACTH stimulates adrenal phosphorylase activity, but whether this is specific to the role of ACTH in promoting steroidogenesis remains to be established.

The extrinsic factor or factors regulating adrenal androgen production are unknown, if, indeed, any exist. ACTH does not appear to be stimulating to androgenesis *in vitro*. The familiar inhibitory effect of cortisone and other corticosteroids upon adrenal androgenesis in cases

of adrenal virilism is presumed to operate by an inhibition of ACTH production by the pituitary. This would imply that, in these cases at least, ACTH does stimulate androgenesis. However, neither a direct effect of corticosteroids on endogenous androgenesis nor an indirect effect on another humoral factor can be excluded.

The regulation of aldosterone synthesis appears to be in large measure independent of ACTH. Although hypophysectomy reduces somewhat aldosterone production *in vivo* there is a much larger reduction in output of cortisol and corticosterone.<sup>38</sup> Furthermore, attempts to stimulate aldosterone production by ACTH *in vivo*<sup>39</sup> and *in vitro*<sup>40</sup> have led to inconclusive results. Recently Farrell, Rosnagle and Rauschkolb<sup>41</sup> have presented data suggesting the presence of a diencephalic neurohumoral factor in the rat which stimulates aldosterone secretion. Knowledge of the chemical nature of this factor and of its mode of action is of great theoretical and practical interest.

#### VARIATIONS IN ADRENOCORTICAL STEROID BIOSYNTHESIS

We have previously indicated possible consequences of qualitative and quantitative variations in adrenal steroid biosynthesis.<sup>16, 20</sup> Certain frank pathological conditions have, in fact, been traced to abnormal steroidogenesis in the adrenal. The diversion of synthesis into androgenesis clearly characterizes the adrenogenital syndrome. The characterization of certain types of Cushing's syndrome as producers of abnormal amounts of typical corticosteroids has been made. Dorfman<sup>42</sup> has, in fact, suggested that the "pure" Cushing's syndrome is characterized by (a) a relative overproduction of ACTH leading to (b) a relative overproduction of corticosteroid and thereby a deficiency of androgenic steroid, which is accompanied by (c) a relative pituitary refractoriness to the inhibitory action of corticosteroid. In contrast, he suggests that in certain adrenal cancers hyperproduction of both 21-carbon and 19-carbon steroids occurs autonomously, i.e., independently of ACTH.

Other pathological conditions involve less obvious abnormalities in steroidogenesis. Thus, it has been suggested that certain types of hypertension involve a degree of hyperaldosteronism.<sup>43</sup> But whether the increased production of aldosterone is primary or secondary remains to be seen. Similarly, the increased urinary output of aldosterone in anxiety states and its decrease in certain psychotics<sup>44</sup> may be symptomatic rather than etiologic. The refractoriness of certain schizophrenics to adrenal-

stimulating stresses of ACTH<sup>45</sup> again may be the result of their disease, although some indications of abnormal steroidogenesis have been found.<sup>46</sup> The fact that psychotic breakdowns are observed in certain patients receiving ACTH or cortisone suggests an influence of corticosteroids on the central nervous system that may occur in certain instances in the absence of exogenous stimulation. The frequency of psychotic symptoms in Cushing's syndrome has indeed been noted.<sup>47</sup> But adrenalectomy, although effective in isolated instances,<sup>48</sup> has not proven a cure-all for psychotic disease.<sup>49</sup>

Other pathologies involving greater or lesser variations in adrenal steroidogenesis might be mentioned. In most instances the evidence for such involvement is indirect and incomplete. There are tantalizing evidences that something may be wrong. This is due, in part, to the fact that the biochemical methods available for definitive establishment of abnormal variation are laborious, exacting and time-consuming, particularly when one must depend on indirect evidence secured from steroid concentrations in blood and urine. Complicating such indirect evidence is the fact that one measures by the available methods not the secretory product of the adrenal cortex, but, for the most part, metabolites of the substances secreted. The catabolites measured are several steps removed from the original product, and the tracing of these catabolites to their original gland-secreted precursors has been and continues to be a formidable task.

Nonetheless, in the case of the adrenal cortical steroids we are faced with a most remarkable medical problem. For they are employed as therapeutic agents in an enormous variety of diseases. For the most part the use of hormones has involved replacement therapy. Thyroid hormone has been used to replace defective thyroid hormone production; estrogens are used to substitute for failing ovaries, insulin to replace an insulin lack, and so on. Yet the widest use of the corticosteroids is in diseases wherein, to date at least, no evidence for adrenal cortical hypofunction exists. One may, of course, regard the therapeutic corticosteroids as powerful pharmacologic agents and their natural occurrence as hormones as accidental. They may be regarded as antiphlogistic drugs like aspirin or other anti-inflammatory agents. But one is uneasy about such simple distinctions. The etiology of what Selye has called "diseases of adaptation" is still so obscure that participation of adrenocortical dysgenesis cannot be wholly ruled out.

We have recently published data on variations in steroid excretion in normal, healthy men and women of various ages.<sup>50</sup> The urinary 17-ketosteroids, on the average, show a remarkable average decline with advancing age. Other steroid components of urine exhibit lesser age-conditioned changes. One of the most notable features of our data is the constancy of individual output. At any age each individual has a characteristic excretion level. Thus, we find certain quite elderly men and women having regular output levels not much lower than those of much younger men and women. This individual steroid excretion pattern may, indeed, be indicative of an individual pattern of steroidogenesis in the adrenal cortex. It may be suggested, therefore, that individuality in steroidogenesis might have wide physiological repercussions in the organism. The quantities of adrenal steroids circulating in the blood and the relative proportions of one type or another may exert subtle but significant influences over the years on numerous vital processes. There is not a tissue of the body which is exempt from the influence of the hormonal steroids. Protein synthesis, fat and carbohydrate metabolism, bone building, muscle-work efficiency, vasomotion, nerve function—all are affected by these substances. How do their variations in production over the life span affect these processes in any single individual? This is perhaps the most engaging problem in adrenal physiology. It demands patience and painstaking observation from experimentalists in the laboratory and the clinic. And one day it will be resolved.

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*Panel Meeting\**

COMMUNIST METHODS OF  
INTERROGATION AND INDOCTRINATION

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The New York Hospital-Cornell Medical Center

*The Methods of Interrogation and Indoctrination Used  
by the Communist State Police*

LAWRENCE E. HINKLE, JR.

Associate Professor of Clinical Medicine in Psychiatry,  
The New York Hospital-Cornell Medical Center

and HAROLD G. WOLFF

*Communist Attempts to Elicit False Confessions  
from Air Force Prisoners of War*

ALBERT D. BIDERMAN, M.A.

Office for Social Science Programs, Air Force Personnel and Training Research Center,  
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*Chinese Communist "Thought Reform": Confession and  
Re-Education of Western Civilians*

ROBERT J. LIFTON

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*Legal Background of Communist Methods of Interrogation  
and Indoctrination*

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\* Presented at a combined meeting of the Section on Neurology and Psychiatry with the New York Neurological Society at The New York Academy of Medicine, November 13, 1956.

SECTION ON NEUROLOGY AND PSYCHIATRY

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## THE METHODS OF INTERROGATION AND INDOCTRINATION USED BY THE COMMUNIST STATE POLICE\*

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SCIENTIFIC interest in the methods used by Communist State Police was stimulated by the experiences of United Nations prisoners of war during the Korean campaign. Since then a considerable body of information has been assembled through the efforts of many investigators. Our own knowledge of these methods was obtained during an investigation carried out from 1954 to 1956 with the collaboration of the United States Department of Defense. An extensive report of the results of this investigation has been published elsewhere.<sup>1</sup>

In the course of this study, information was obtained from a number of sources. Details of the Communist arrest and interrogation systems, and a great deal of information about the purposes, attitudes, and training of those who administer them were obtained from experts in the area, who for security reasons must remain anonymous. Knowledge of the prisoners' reactions to their experiences was obtained by the direct observation of persons recently released from Communist prisons. Some of these observations continued for weeks, and were supplemented by follow-up observations over periods of months. They included complete physical, neurological and psychiatric examinations, and often psychological testing as well. They were supplemented by information supplied by families, friends, and former associates. Among those studied intensively were military and civilian prisoners of diverse ranks and backgrounds, women as well as men, defectors and resisters, persons "brain washed" and "not brain washed," some who admittedly cooperated with their captors, and some who said they did not.

In supplement to this, pertinent information from investigations carried out by the U. S. Army and the U. S. Air Force, and from the

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TABLE I.—BACKGROUND OF COMMUNIST METHODS

15th Century Byzantine Heritage	<ol style="list-style-type: none"> <li>1. Unrestricted Autocracy</li> <li>2. Internal Intrigue &amp; Espionage</li> </ol>
16th Century	<ol style="list-style-type: none"> <li>1. Permanent Body of Private Retainers Responsible only to Czar</li> <li>2. Central Control of all Aspects of the State</li> <li>3. Purges</li> </ol>
17th-18th Century	Central Directorate with Mission to Guard the Internal Security of the State
19th Century	<p>Most Highly Organized, Effective and Powerful Secret Police of any European State</p> <ol style="list-style-type: none"> <li>1. Sudden Arrest</li> <li>2. Dossier</li> <li>3. Repetitive Interrogation</li> <li>4. Isolation Technique Developed</li> </ol>
20th Century Cheka	<ol style="list-style-type: none"> <li>1. Highly Organized and Refined Methods</li> <li>2. Communist Ideology and Logic</li> <li>3. Abandonment of Direct Brutality</li> <li>4. Development of Persuasion Techniques; Exploitation of Intimate Interrogator-Prisoner Relationship</li> </ol>
OGPU-NKVD-MVD (KGB)	<ol style="list-style-type: none"> <li>1. Purges</li> <li>2. Public Trials</li> <li>3. POW Indoctrination (Exposure to Nothing but Communist Interpretation of History and Current Events)</li> </ol>
Chinese System	<ol style="list-style-type: none"> <li>1. Group Pressures</li> <li>2. Self &amp; Group Criticism (Applied to Non-Party Personnel &amp; to Prisoners)</li> <li>3. Prisoner Indoctrination Rote Learning Autobiography and Diary Writing</li> </ol>

material assembled for the Defense Advisory Committee on Prisoners of War, was utilized. The very large public literature on the subjects was reviewed also, and was drawn upon when it was helpful. Finally, various laboratory and clinical investigations were carried out in order to throw light upon the psychological and physiological processes involved in some of the interrogation and indoctrination procedures.

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The information from all of these sources is voluminous, and is best presented in outlined form.

The Russian State Police are the model for the Eastern European police systems. The development of the Russian police system is deeply embedded in the cultural heritage of Russia, and its operation can only be understood in the light of the social attitudes and political institutions which Dr. Berle has described. Organizations similar to a state police have existed in Russia since the 16th century, and a formally organized police system has been in operation there for over a century and a half (Table I). The Communists abolished this organization only briefly, and soon revived it as the Cheka. They have reorganized and reformed it from time to time, as their Czarist predecessors did before them; but it has nevertheless continued to operate in essentially the same manner up to the present day, usually as a part of the Ministry of Internal Affairs, but more recently as an autonomous organization, under the "Committee for State Security" or "KGB".

The distinctly Communist contributions to the methods used by the Russian State Police were the organization and refinement of police procedures, the abandonment of official sanction for the use of direct brutality, and the development of persuasion techniques which exploit the intimate interrogator-prisoner relationship and make use of the peculiar definitions and tortuous logic associated with Communist ideology in order to produce a "deposition" or "confession" by the prisoner.

The formal indoctrination of prisoners of war on a mass basis was developed by the NKVD for use against German prisoners in the latter stages of World War II. Similar methods were used against the Japanese who fell into Russian hands in 1945, and knowledge of them was later transmitted to the Chinese Communists. The Chinese, however, had previously developed methods of their own for dealing with prisoners of war, and their present procedures are based in part upon their own experience, and in part on that of the Russians.

A state police system had existed in China under the Nationalist government, and one was established in those areas controlled by the Communists long before they came into power in 1949. Sometimes the methods used by the Chinese State Police copy very closely those which they learned from the Russians, but in general they exhibit refinements which are distinctly Chinese. The most important of these is the use of group pressures, generated among prisoners who are confined to-

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TABLE II.—IMPORTANT COMMUNIST ATTITUDES

1. Anyone who is a Threat to Party or State is a Criminal
2. Potential "Criminals" may Fall into Broad Categories:
  - a. Dissident Members of the Communist Party
  - b. Ethnic Groups Suspected of Nationalist Aspirations
  - c. Social Groups "Inimical to the State"
  - d. Bureaucratic Groups "Out of Favor"
  - e. Members of Reactionary Classes
  - f. Foreign Nationals
  - g. People who have had Contact with Foreign Nationals
3. "KGB" Decides who Threatens Party or State
4. "Crimes" may be "*Objective*": Committed Accidentally or with Innocent Motives  
— OR —  
"*Consequential*": Potential Consequences of Acts or Attitudes
5. "Evidence" of Criminality Includes
  - a. Membership in a "Suspect Group"
  - b. Minor Infractions
  - c. Suspicious Acts
  - d. Unverified Reports of Informers
6. "KGB" does not Arrest a Man without Evidence of Criminality
7. Therefore:  
Anyone arrested by "KGB" is a Criminal

gether in cells, each of whom is required to demonstrate his own reform by tearing down the statements and deriding the past behavior of his fellow prisoners. The routine of "self-criticism", self-abasement, punishment, recantation, and ultimate rehabilitation, which was developed by the pre-war Russian Bolshevik Party as a means of insuring discipline among party members, has been extended to the civilian and prison populations by the Chinese, who use these procedures very effectively within cell groups to produce pressure on individual prisoners. In addition, the Chinese have introduced into the prison system pedagogical methods based upon rote learning, recitation, and the repetition of long, hand-written, essay-like "confessions", as a means of indoctrinating the prisoner with Communist concepts of economics, politics and current events. These teaching methods have been drawn directly from those which had been in use in China for many centuries.

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TABLE III.—CRUCIAL FEATURE OF LEGAL OPERATION

If a Man is Arrested his Case Cannot be Settled until a Protocol ("Confession") has been Prepared. This Protocol Must be Signed by Both Prisoner and Interrogating Officer.

satellites operates against those who are defined as political criminals. It is not concerned with petty, or personal criminality, such as thievery or murder. Such crimes are handled by the militia and the regular system of courts, and need not concern us here. The State Police direct their activities against those who are considered to be a threat to the party or the state. These operations can be understood only in the light of the attitudes outlined in Table II, which are implicit in a modern Communist society. Perhaps the most important consequence of these concepts is that the guilt or innocence of one who is arrested is not at issue. The fact that a man is seized automatically places him in the category of political criminals, and the only matters to be determined thereafter are the extent and the nature of his criminality. It is a deeply ingrained administrative principle of the Soviet state that this criminality can be formally established only by means of a "protocol" or "deposition" signed by the prisoner and the investigating officer, and setting forth the nature and extent of the crimes along with the motives behind them. In the absence of such a protocol, no case can be settled (Table III). The operations of the interrogating officers, therefore, are designed with an eye to obtaining a proper deposition as expeditiously as possible without using direct brutality upon the prisoner.

The attitudes described in Table II are known to the general population as well as to the police. The prisoner is under no illusion as to his legal rights at the time that he is seized, and has no anticipation that he will be released without signing a protocol, even though he may have every hope that the crime specified in the protocol can be as mild as possible. His seizure is usually preceded by a period of surveillance, during the course of which he generally becomes aware of the fact that the police have an interest in him, and is able to anticipate the fate that is in store for him (Table IV). The psychological

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TABLE IV.—A TYPICAL TIME TABLE—  
EASTERN EUROPEAN SECRET POLICE SYSTEMS (COMMUNIST)

<i>Weeks</i>	<i>Steps</i>	<i>Reaction of Prisoner</i>
0	1. Suspicion	P Anxiety
1	2. Accumulation of Evidence	R Suspense
2	Surveillance	O Awareness of Being Avoided
3	Reports of Informers	G Feelings of Unfocused Guilt
4	Seizure of Associates	R Fear and Uncertainty
5	3. Seizure	E Bewilderment
6	4. Detention	S Hyperactivity
	I Rigid Regimen	S Diminishing Activity
7	5. S	I Increasing Depression
	O Increasing Pressure	V Fatigue (Pain)
	L	E Humiliation, Loss of Self Esteem
	A I	Filth, Mental Dulling
	T N	Despair
8	I T	Frustration Tolerance
	O E	Greatly Reduced
	N R	D Great Need to Talk
	R	I Utter Dependence on Anyone
9	O	S who "Befriends"
	6. G	O Much More Pliable
	A	R Great Need for Approval
	T	G of Interrogator
10	I	A Repeatedly Frustrated
	O	N by Interrogator's Refusal to
	N	I Accept Statements, and
		Z by Interrogator's Alternating
		A "Help" and Withdrawal of
		T Approval
		I Increased Suggestibility
	7. Deposition	O Confabulation
		N Rationalization
11		Profound Relief
	8. Respite	
12	9. Trial "Confession"	
	10. Punishment	

effect of this is not necessarily planned by the police, but it is important in setting the stage for the reaction of the prisoner to his experiences during imprisonment. This usually begins with a dramatic seizure, often at night, which is classically followed by a period in complete isolation in a detention prison.

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TABLE V.—THE DETENTION REGIMEN

- 
1. Total Isolation: No Communication of any Sort with any Person
  2. Cell: 6 x 10—Barren—No View Outside—Light in Ceiling Burns Constantly
  3. Rigid Regimen—Strict Time Table. For Example:
    - a. Early Rising
    - b. Short Time for Washing
    - c. Eat—(No Utensils)
    - d. Sit—(Fixed Position)
    - e. Exercise—(Walk Alone)
    - f. Sit—(Fixed Position)
    - g. Eat—(No Utensils)
    - h. Sit—(Fixed Position)
    - i. Sleep—On Back, Hands Out, Face to Light
  4. Immediate Punishment for Infractions
  5. Food: Plain, Distasteful—Just Sufficient to Sustain Nutrition—Sometimes Excessively Salty
  6. Elimination: Slop Jar in Cell—Removed for Infractions—Thereafter, Taken to Latrine only at Pleasure of the Guard
  7. Temperature: May be Hot, or Cold and Damp
  8. Pain May Result from Fixed Positions During Sleep and When Awake
- 

The details of this isolation regimen are outlined in Table V, and its effect upon the prisoner, which is sometimes remarkably predictable, is described in Table VI. The essential features of it are uncertainty, anxiety, complete isolation from the social environment, and an overwhelming awareness of the control exercised by the jailers. This, added to the physiological effects of lack of sleep, alterations in diet, the temperature in the cell, and the pain and circulatory disturbances produced by unusual postures long maintained, leads to a steady disorganization of the prisoner which, in the case of new prisoners unfamiliar with the routine, is usually well advanced within three to six weeks. The characteristics of this disorganization are mental dulling, loss of ability to make discriminations, feelings of helplessness, depression and despair, associated with inactivity, filth, self-soiling, and an active fantasy life of a fearful nature. The reaction may go on to frank delirium. The lack of discriminatory capacity makes it difficult for the prisoner to differentiate what actually has happened from what might have happened, or to understand the fine distinctions contained in the legal



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TABLE VI.—EFFECTS OF DETENTION REGIMEN ON PRISONER

Initially	Fear, Uncertainty
1 to 3 Days	Bewilderment and Discouragement Followed by Overalertness, Expectancy, Demanding. Rejects Food—Complains—Attempts Fraternization (Rejected or Punished).
3 to 10 Days	Anxiety, Hyperactivity, Sleeplessness, Nightmares, Compliance, Steadily Increasing Loneliness, Boredom, Fatigue, Hunger, Pain, Weight Loss, Gradual Compliance.
10 Days to 3 Weeks	Decreasing Activity. Increasing Dejection, Automatic Behavior, Repetitive Acts, Intense Fatigue, Drowsiness, Pain; Weight Loss, Constipation, Edema; Craving for Companionship; Humiliation, Loss of Self-Esteem.
3 to 6 Weeks	Despair, Utter Dependence, Inactivity, Filth, Soiling, Mental Dulling, Loss of Discrimination, Muttering, Weeping, Praying, Delusions, Hallucinations (Delirium), "Confabulation", Need for Companionship, Great Need to Talk, Frustration Tolerance Greatly Reduced, Suggestible, Eagerly Grasps at any Help. Pliable.

documents which he may be called upon to sign. Sometimes prisoners actually confabulate. Accompanying all of this is an intense need for companionship and an intense desire to talk to someone, which is utilized effectively by the interrogator.

In the typical case, the interrogation will begin when the interrogator feels that the prisoner is ready to talk, but before he has become completely disorganized (Table VII). Skillful interrogators utilize the prisoner's need to talk and craving for human association by discussing with him apparently innocent details from his past life. This cements a bond of companionship between the two that can be one of the most effective tools of the interrogator. By maintaining his pressures upon the prisoner, and by carrying out the interrogation at night and at great length, the interrogator keeps the prisoner in a dependent, uncomfortable, and befuddled state, which he can easily manipulate by rejecting his statements and increasing the pressures on the one hand, or by praising and approving his performance and decreasing the pressures on the other. The prisoner, undergoing an ordeal which is profoundly unpleasant and apparently endless, is highly motivated to seek some end to his misery. He usually will not confess to bald statements which he recognizes as obviously untrue, but he is vulnerable

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TABLE VII.—INTERROGATION PROCEDURES AND PRISONER REACTIONS

Begin:	When Interrogator Decides Prisoner is Ready to Talk—Usually when he has Become Dejected and Dependent.
Carried Out:	According to Plan—Usually at Night.
Lasts:	Until Deposition is Signed.
Stage I:	Review of Life History in Great Detail, Repetitively. Interrogator: Formal. Allows Prisoner to Talk. Cements Relationship by Long and Intimate Inquiry into Prisoner's Life. Persuades Prisoner his Aim is to Help and Befriend. Attitude: "We Know Everything Already". Never Satisfied with Information. Discrepancies Mean Lies. Prisoner: Anxious to Talk and Explain. Much More Pliable.
Stage II:	Interrogator Uses Episode from Life History as Evidence of Crime. Disapproves of Prisoner's Denials. Punishes Him. Prisoner Frustrated. (If made to Stand Many Hours May Develop Circulatory Collapse and Uremia.) Hurt by Rejection. Strives to Please Interrogator. Increasingly Suggestible.
Stage III:	Interrogator Rewards and Approves of the Prisoner's Cooperation. Persuades Him, Suggests Half Truths, and Helps Him to Rationalize as Only Way Out.
Stage IV:	Repetition of Stages II and III Several Times, if Necessary. Prisoner Repeatedly and Increasingly Frustrated by Interrogator's Refusal to Accept Statements and by his Alternating "Help" and Withdrawal of Approval—Becomes More and More Suggestible, Readily Confabulates, Rationalizes Half Truths.
Stage V:	Successful Rationalization. Satisfactory Protocol. "Gentleman's Agreement". Prisoner Feels Great Relief, May Have Gratitude and Admiration for Interrogator.

to rationalizations and contrived definitions that allow him to make an ostensible confession, while retaining a shred of a belief that he has not really compromised himself beyond the facts of the case. His fatigue and lack of discriminatory powers may prevent him from seeing that he has actually confessed to all that the police require. Even though he may know that his confession carries with it an automatic sentence of death, he may prefer this to a continuation of his present hopeless state of misery. Thus, the primary work on the interrogator is that of convincing the prisoner that what he did was a "crime", as defined by the Communist state, and as interpreted by the State Police.

There has been a good deal of bewilderment at the fact that confessions so obtained are not usually repudiated in open court. However, only an extremely small minority of prisoners ever appear before an open court of any sort, and those who do are well aware of the fact

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that a repudiation of their confession will only lead to a repetition of their torture, while at the same time they have some hope that by playing their roles properly some lenience may be shown to them. A vast majority of state police prisoners in the past have not been tried by the regular courts, but by so-called "military tribunals", which operate *in camera* within the detention prisons, before which there is no defense, and from which there is no appeal. So far as the prisoner is concerned, appearance before such a "court" is merely another step in the police routine, and the futility of recantation is apparent. In spite of this, there are many recorded instances of prisoners who have repudiated their confessions, not once, but several times, and there are said to have been some who have never signed a protocol at all. However, refusal to sign a protocol (or "confession", as Western prisoners usually call it) is very rare, because it is practically impossible to be released from a Communist detention prison unless a proper protocol has been prepared and signed.

The period of detention and investigation usually lasts not more than several months in Eastern Europe and Russia. The police do not regard this as a period of imprisonment or punishment. "Punishment" begins only after the trial and sentencing. If the punishment is not capital, it is usually carried out in a labor camp in some distant place.

The Eastern European police practices which we have described are somewhat idealized. They vary from place to place, and from time to time. The official sanctions against direct brutality are not always observed, especially when the police are under some pressure to settle a case rapidly. Isolation may not be so prolonged as this, or used with such deliberate finesse. Not uncommonly prisoners newly seized are immediately subjected to prolonged and uninterrupted interrogation, which may go on for days until they collapse or sign the necessary deposition. Sometimes prisoners are placed in cells with other prisoners who are informers. Some are merely bribed, threatened, or otherwise handled by the police officers upon the basis of their horseback estimate of the type of man that they are dealing with. But in no case is there reliable evidence that neurologists, psychiatrists, psychologists or other scientifically trained personnel have designed or participated in these police procedures. There is no evidence that drugs, hypnosis or other devices play any significant role in them. The effects produced are understandable in terms of the methods used. There is no reason to dignify

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TABLE VIII.—COMPARISON OF METHODS OF CHINESE  
WITH METHODS OF KGB

1. KGB Goal is to Produce a Satisfactory Protocol in Preparation for Trial. Additional Chinese Goal is to Produce Long Lasting Changes in the Basic Attitudes and Behavior of the Prisoner.
2. Prolonged Isolation not used Routinely.
3. Intensive Use of Group Interaction—Greater Dependence on Disorganizing Effect of Group Rejection and Hostility. Complete Lack of Privacy.
  - a. To Obtain Information.
  - b. To Apply Pressure--To Persuade.
  - c. To Indoctrinate.
4. Use of Public Self-Criticism and Group Criticism for Indoctrination of Non-Party Persons.
5. Use of Diary Writing, Repeatedly Rewritten and Rejected Autobiography, and Rote Learning as Means of Interrogation and Indoctrination.
6. Detention Greatly Prolonged After Initial Interrogation—Indoctrination May Continue Years Before Trial, with Exposure to Nothing but Communist Interpretation of History and Current Events.

these methods by surrounding them with an aura of scientific mystery, or to denote them by terms such as "menticide" or "brain washing" which imply that they are scientifically organized techniques of predictable effectiveness.

The Chinese methods of handling political prisoners during the past five or six years have been somewhat less formalized than those of the Eastern European Communists, partly because the Chinese are in the midst of a social revolution, and partly because of the size of the nation and the variations in available prison facilities. The essential differences between the Chinese procedures and those of the KGB are outlined in Table VIII. An outline of the methods themselves is in Table IX.

Suspicion and surveillance act upon a Chinese suspect much as they do upon a European. Chinese arrests, however, are often carried out in the daytime, and under dramatic circumstances. Upon his seizure, the prisoner is often taken before several police officers, who act as "judges" and carry out the initial interrogation. Most of those Western prisoners who have been held in China have undergone some period of isolation, which may have been long, but was not necessarily as

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TABLE IX.—A TYPICAL TIME TABLE  
CHINESE COMMUNIST SECRET POLICE SYSTEM

<i>Weeks</i>	<i>Steps</i>	<i>Reaction of Prisoner</i>
0	1. Suspicion	Anxiety and Suspense
1	2. Preparation for Arrest:	Awareness of Being
2	Denunciation by Neighbors and Associates Covertly and at Local Group	Avoided
3	Criticism Sessions	Feelings of Unfocused
4	Restrictions and Annoyance by Police.	Guilt
5	3. Seizure under Dramatic Circumstances. Initial Interrogation by 3 "Judges"	Fear, Complete Uncertainty as to Fate
± 17	4. House Arrest	Reaction like that of KGB Prisoner, Leaving Subject Feeling Defeated, Humiliated, Mentally Dull, Pliable and with Great Need for Talk and Approval
	5. Sudden Transfer to Detention Prison. Isolation Resembling KGB Procedure	
To		
± 20	6. Transfer to Group Cell Total Absence of Privacy Rejected Reviled Humiliated Brutalized Public Self- and Group Criticism Diary and Autobiography Writing	Emotional Nakedness Unfocused Feelings of Guilt and Unworthiness Helpless, Degraded Increasing Dejection, Fatigue, Sleep Loss, Pain, Hunger, Weight Loss, Mental Dulling, Confusion (Occasional Delirium)
	Constant Reading, Discussion and Repetition of Communist Material, with Total Absence of Other Information	Increasing Difficulty in Discriminating Between this Material and that from Earlier Memory
	Intermittent Sessions with One or More Interrogators	Attempts at Self Justification
24	7. Preparation of "Confession" (Some Fellow Prisoners Sincerely helpful) Some Respite from Pressures	Hopeful, Rationalizes, Thankful for Kindness and Help and May Acknowledge Apparent Dedication and Idealism of his "Teachers"
To	8. Rejection of "Confession" by Interrogator	Hopes Dashed
	9. Resumption of Pressures in Group Cell	Alternating Hopefulness, Frustration and Degradation
	10. Preparation of New "Confession"	
	11. Rejection of New "Confession" (9, 10, and 11 May be Repeated as Many as 3 to 6 Times Over as Many as 4 years. Usual Duration, 6 Months to 2 years.)	
100	12. Final Achievement of "Proper" Attitude and Acceptable "Confession"	By Rationalization, and Tentative Partial Belief is Able to Conform and Obtain Group Acceptance and Approval
To	Group Acceptance and Approval	Profound Relief
	13. Continued Study and Discussion of Communist Materials	
	14. "Trial" and "Confession"	
250	15. Release, or Punishment	Gradual Readjustment of Attitudes and Behavior to the New Reality Situation

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well organized as that of the KGB. Some were detained for a time under "house arrest" in their own homes, in rooms fitted up as prisons, and guarded by police.

It is not uncommon that several "depositions" or "confessions" are obtained from a prisoner of the Chinese, and usually one of these is obtained from him early in his imprisonment. The most important point at which the Chinese prison routine differs from that of the Russians lies in the fact that the preparation of a proper deposition is not necessarily the prelude to a "trial" and punishment. The prisoner, even if he has already "confessed", usually finds himself transferred to a group cell with about eight other prisoners, where he undergoes a prolonged process of indoctrination, which may last for as many as five years. The atmosphere within such a group cell, and the interaction of the prisoners with each other and with the various interrogators, has been ably described by Dr. Lifton.<sup>2</sup> Disorganization and demoralization of the prisoners in these cells are produced by the pressures of fellow prisoners, and by their rejection, humiliation, and even outright torture of each other, in an atmosphere in which they feel totally without privacy, while at the same time utterly alone. Sooner or later most prisoners under such pressure develop reaction patterns similar to those which occur in KGB prisoners, accompanied by a depressive and fearful mood. Sometimes they attempt suicide.

The same sort of rationalization is offered to the Chinese prisoner as a way out of an impossible situation. This rationalization is implicit in the behavior and statements of the other prisoners, who make it clear that only by proper cooperation with the interrogators, by the preparation of a proper confession, by the exhibition of suitable remorse about his past behavior, and by the enthusiastic acceptance of the "new way of life" offered to him, will the new prisoner ever escape the intolerable pressures of the situation. When a prisoner achieves the necessary rationalization, when the pressures upon him are lifted, and when he is finally accepted by the group, he usually has an exhilarating sense of relief that may have the characteristics of a religious conversion. But this is not necessarily the end of his imprisonment. He may recant some portion of his confession at a later date and may have to go through the whole procedure again several times before he is finally released.

All of this is carried out in an atmosphere in which the prisoner group is totally isolated from contact with the outside world. They are

presented only with the Communist interpretation of current news, and are forced to study and discuss Marxist topics for many hours each day, and every day. Nor are the effects of the physical features of the environment to be neglected. Diet may be inadequate or unpalatable, the cell unheated, and arrangements for elimination absent or so restricted as to cause acute discomfort. Direct physical brutality in the form of manacles, leg chains, beatings and prolonged standing or sitting in uncomfortable positions, are a part of the punishment which is meted out to Chinese prisoners, even though the guards themselves may refrain from such practices, which here, as in Russia, are not "officially" condoned.

Prisoners who have been released after long periods in Chinese Communist prisons seem cowed and docile. They may talk a great deal, but they typically avoid criticism of the Chinese Communist, and they may refrain from describing the details of their unpleasant prison experiences. They may use some Communist or Chinese terms, and they may seem to subscribe to the Communist interpretation of some recent events. They are not entirely free of the fear of retaliation, or yet aware of all of the realities of the outside world. Usually after several months of reality testing and readjustment to their new environment, they exhibit attitudes and behavior patterns that are essentially the same as those which they showed prior to their imprisonment. This is true even of the people who are said to have been "most thoroughly brain washed". It must be remembered that among the group of Americans who remained in China after the general evacuation in 1949 there were some who had lived most of their lives in China, who spoke Chinese fluently, who had few ties to the United States, and had a high degree of interest in the social changes being carried out by the Communist regime. A number of these people were intellectually sympathetic to the Chinese Communists even before their imprisonment. It was among this group that those who are said to have been "the most thoroughly brain washed" were found. Even among these people it was hard to tell if their views after imprisonment differed materially from those that they had held prior to their seizure. Under the pressure of five years of persuasion some of them did commit themselves temporarily to actively supporting a cause for which they had previously expressed only intellectual sympathy. But even this seems to have been transient. There is, in short, no evidence that the Chinese Communists

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have developed any new, predictable, or unusually effective methods of changing human behavior to add to those already known.

#### SUMMARY AND CONCLUSIONS

Our general conclusions based upon review of the evidence available to us are these:

1. The interrogation methods used by the state police in Communist countries are elaborations and refinements of police practices, many of which were known and used before the Russian Communist Revolution.
2. The principles and practices used by the Communist state police in the development of suspects, the accumulation of evidence, and the carrying out of arrest, detention, interrogation, trial, and punishment are known. The effects of these upon prisoners are known also.
3. The "confessions" obtained by Communist state police are readily understandable as results of the methods used.
4. Communist methods of indoctrinating prisoners of war were developed by the Russians and subsequently refined by the Chinese. These methods and their effects are known, also.
5. Chinese methods of dealing with political prisoners and "enemies of the state" were adapted from those of the Russians.
6. Intensive indoctrination of political prisoners is a practice primarily used by the Chinese Communists. The methods used in this indoctrination are known, and their effects are understandable.

The report from which these conclusions were taken was prepared in January 1956. In the year since that time new events have occurred in Hungary and Poland, accompanied by the release of many former political prisoners. The Soviet Union is said to have withdrawn from the state police the right of summary execution, and recently it has announced that state police cases will be tried in the regular courts rather than in "military tribunals". However, all of the evidence which we have received is in support of the conclusions stated above, and we have received none which would lead us to alter them. The present curbs upon the State Police in Russia and the restriction of their activities will very probably be temporary, like the many other transient



reforms of this system that have taken place in the past. From a clinical point of view they can be looked upon as a remission of a chronic disease that is almost certain to be followed by a serious exacerbation in the future.

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COMMUNIST ATTEMPTS TO  
ELICIT FALSE CONFESSIONS FROM  
AIR FORCE PRISONERS OF WAR \*

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THE United States Air Force has expended considerable effort to get a full, accurate and meaningful account of what happened to its personnel who were captured in Korea. I have been associated with these studies since their beginnings three years ago. Because we believe the experiences of our returned prisoners of war can tell us much about the nature of a potential enemy, about the soldier and airman, and about man, generally, these studies are continuing.

Of the 235 Air Force men who were returned by the Chinese Communists after the Korean Armistice—two years after, in the case of 15 of these men—about half had some direct personal experience with Communist attempts to extort false confessions. We know one airman died during such an attempt. There may have been others.

The attempts made against these men, the reasons for these attempts and the reactions of the men themselves comprise a very involved series of stories. The record of each of the long interviews conducted with these men after their return would engross you, I am sure. Almost all are exciting stories of individual heroism and perseverance. There is an almost unmatched drama in these airmen's efforts to protect principles, dignity and self-respect with only their own inner resources to sustain them. A few of the stories do not have completely happy endings and all of them reveal something about human imperfection.

Our objective here is science, however, not drama. Therefore I won't attempt what in any event I could probably not do well; that is, to relate in the space of a few minutes the meaning of these experi-

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ences to those who lived through them. A few honest, discerning and eloquent victims have accomplished this in a manner the social scientist need not and cannot match.

As a social scientist, I find of singular interest one result of the studies which we and other groups have recently made of Communist attempts to extort "confessions". It is that the finding of our studies which should be greeted as most new and spectacular is the finding that essentially there was nothing new or spectacular about the events we studied. We found, as did other studies such as those of Ilinkle and Wolff,<sup>1</sup> that human behavior could be manipulated within a certain range by controlled environments. We found that the Chinese Communists used methods of coercing behavior from our men in their hands which Communists of other countries had employed for decades and which police and inquisitors had employed for centuries. The Chinese interrogators succeeded or failed to influence the behavior of their victims roughly to the extent that the skill and persistence of the personnel they employed matched those of practitioners in other places and times. While their initial attempts were generally inept and unsuccessful, their success tripled with experience.

The reception of these findings has frequently been incredulous and we have been asked: "Is there nothing more to it than this? Can people really be manipulated so easily? Are you sure there was not something done that you failed to detect?"

In selecting the material I should discuss here, I have been influenced by these kinds of questions. Such a selection precludes discussing the useful hypotheses about human behavior in situations of stress which our studies suggested.

Briefly, here is our analysis of this problem. We found that we could make a meaningful distinction between those measures the Communists took to render the prisoner compliant, on the one hand, and, on the other, those which sought to shape his compliance into the very specific patterns of "confessor" behavior with which the world has become familiar.

This distinction was suggested by the Chinese Communists' use of more or less identical methods of gaining compliance for a variety of different ends—for eliciting factual intelligence information, other forms of propaganda collaboration, as well as false confessions. In fact, prisoners met similar practices where no other objective could be

discerned but compliance for its own sake. The methods of gaining compliance they used included nothing which was not common practice to police and intelligence interrogators of other times and nations, where restraints precluding such tactics were not in force. Numerous historical examples existed where such practices produced behavior as greatly at variance with principles, self-interest and survival of the victim as any which occurred in North Korea and Communist China.

The methods they used to shape compliance into the now familiar pattern of the forced confession, we believe, can be understood as essentially a teaching procedure—teaching the prisoner how to comply. It was a complex teaching procedure, however. Its complexities were due to the elaborate and complex behavior which was sought, as well as to the fact that this behavior was so alien and offensive to the prisoner. It was further complicated by irrational aspects of the system within which the Communist interrogator operated. The system required him to teach without making his lessons explicit.

I should point out that the distinction between inducing compliance and shaping compliance is purely an analytic division. The two kinds of methods are not independent of one another nor separate in time.

I would like to discuss first the measures used by the Communists to induce compliance: to undermine the resistance of the prisoner. The experiences of American Air Force prisoners of war in Korea who were pressured for false confessions, enabled us to compile an outline of methods of eliciting compliance,<sup>2</sup> not much different, it turned out, from those reported by persons held by Communists of other nations. I have prepared a chart showing a condensed version of this outline. It shows our analysis of these techniques into eight general measures, some illustrations of the specific forms these measures take, and our judgment of the effect of each. In inferring purpose from our judgments of the effects the measures have on the victim, it is likely that those who employ these measures conceive of them differently than we do.

I have not included physical torture as a general category in this outline, despite the fact that many of our prisoners of war did encounter physical torture and despite the fact that a few of the specific measures in the outline may involve physical pain. I have omitted torture from the outline to emphasize that inflicting physical pain is not a necessary nor particularly effective method of inducing compliance. While many of our people did encounter physical violence, this rarely

CHART I.—COMMUNIST COERCIVE METHODS  
FOR ELICITING INDIVIDUAL COMPLIANCE

<i>General Method</i>	<i>Effects (Purposes?)</i>	<i>Variants</i>
1. Isolation	Deprives Victim of all Social Support of his Ability to Resist Develops an Intense Concern with Self Makes Victim Dependent on Interrogator	Complete Solitary Confinement Complete Isolation Semi-Isolation Group Isolation
2. Monopolization of Perception	Fixes Attention upon Immediate Predicament; Fosters Introspection Eliminates Stimuli Competing with those Controlled by Captor Frustrates all Actions not Consistent with Compliance	Physical Isolation Darkness or Bright Light Barren Environment Restricted Movement Monotonous Food
3. Induced Debilitation; Exhaustion	Weakens Mental and Physical Ability to Resist	Semi-Starvation Exposure Exploitation of Wounds; Induced Illness Sleep Deprivation Prolonged Constraint Prolonged Interrogation or Forced Writing Over Exertion
4. Threats	Cultivates Anxiety and Despair	Threats of Death Threats of Non-repatriation Threats of Endless Isolation and Interrogation Vague Threats Threats Against Family Mysterious Changes of Treatment
5. Occasional Indulgences	Provides Positive Motivation for Compliance Hinders Adjustment to Deprivation	Occasional Favors Fluctuations of Interrogators' Attitudes Promises Rewards for Partial Compliance Tantalizing
6. Demonstrating "Omnipotence" and "Omniscience"	Suggests Futility of Resistance	Confrontations Pretending Cooperation Taken for Granted Demonstrating Complete Control over Victim's Fate
7. Degradation	Makes Costs of Resistance Appear More Damaging to Self-Esteem than Capitulation Reduces Prisoner to "Animal Level" Concerns	Personal Hygiene Prevented Filthy, Infested Surroundings Demeaning Punishments Insults and Taunts Denial of Privacy
8. Enforcing Trivial Demands	Develops Habit of Compliance	Forced Writing Enforcement of Minute Rules

occurred as part of a systematic effort to elicit a false confession. Where physical violence *was* inflicted during the course of such an attempt, the attempt was particularly likely to fail completely.

I should qualify my remarks on physical violence in two respects.

First, the ever-present fear of violence in the mind of the prisoner appears to have played an important role in inducing compliance. The Communists generally fostered such fears through vague threats and the implication that they were prepared to do drastic things.

Second, one form of torture was experienced by a considerable number of Air Force prisoners of war during efforts to coerce false confessions from them. The prisoners were required to stand, or sit, at attention for exceedingly long periods of time—in one extreme case, day and night for a week at a time with only brief respites. In a few cases, the standing was aggravated by extreme cold. This form of torture had several distinct advantages for extorting confessions.

In the simple torture situation—the “bamboo splinters” technique of popular imagination—the contest is clearly one between the individual and his tormentor. Can he endure pain beyond the point to which the interrogator will go in inflicting pain? The answer for the interrogator is all too frequently yes.

Where the individual is told to stand at attention for long periods, an intervening factor is introduced. The immediate source of pain is not the interrogator but the victim himself. The contest becomes, in a way, one of the individual against himself. The motivational strength of the individual is likely to exhaust itself in this internal encounter.

Bringing the subject to act “against himself” in this manner has additional advantages for the interrogator. It leads the prisoner to exaggerate the power of the interrogator. As long as the subject remains standing, he is attributing to his captor the power to do something worse to him, but there is actually no showdown of the ability of the interrogator to do so. Most frequently, although not invariably, the extent to which the interrogators in North Korea and China were willing or permitted to inflict physical punishment was very limited. Generally, it appears to have been limited to cuffs, slaps and kicks, and sometimes merely to threats and insults. Returnees who underwent long periods of standing and sitting, however, report no other experience could be more excruciating.

For the interrogator, forced standing has still further advantages.

It is consistent with formal adherence to mythical principles of legality and humaneness important to the Communists. These principles are important in the interrogation—particularly in facilitating the adoption of a positive attitude by the prisoner toward the interrogator and the forces he represents. Adherence to these mythical principles also protects the interrogator from potential punishment at some future time for mistreating prisoners. The Communists, furthermore, can gain a considerable propaganda advantage when victims who are released truthfully state that no one ever laid a hand on them.

The two attributes of constrained postures we have discussed—the active enlistment of the energies of the victim against himself and the formal adherence by interrogators to twisted norms of humaneness and legality—apply also to other measures in the outline. These attributes help to account for the use and emphasis by the Communists of certain techniques for undermining resistance, and the neglect or de-emphasis of others. Techniques having these attributes are also consistent with the other aspect of “confession”—elicitation; namely, the *shaping* of the prisoner’s compliance into the very specific patterns of “confessor” behavior.

Assuming the measures I have discussed have made the prisoner compliant, the problem remains of getting him to comply appropriately—of informing and instructing him as to the forms of compliance. In the case of false confessions, this is a very complicated teaching job.

The kind of “confession” we are discussing consists of considerably more than the signing of a piece of paper which says: “On such and such a date I committed such and such a crime—signed John Jones.” It consists of considerably more than making an equivalent oral statement in a court. These “confession”—extortion efforts involve the attempt to manipulate the individual so that he behaves over an extended period as if:

- (a) he actually committed certain concrete acts which he can “describe” with meticulous detail;
- (b) these acts were “criminal”, in the sense of being violations of the most fundamental standards of human decency;
- (c) these acts were not isolated transgressions but manifestations of a “criminal” pattern in his thought and action;
- (d) his “crimes” were part and parcel of a larger nefarious political conspiracy;

(e) his "criminal" role was motivated by a self-seeking alignment with this political conspiracy, of which he was only a pawn;

(f) he is now remorseful and repentant;

(g) his changed attitude is due to new-found political conviction for which he is indebted to his patient captors.

In this extreme form of "confession"-elicitation, as encountered by our men, the objective was not merely having the prisoner "confirm" that certain acts were committed, but rather to have his behavior confirm the entire world-view of the Communists relevant to those acts. Learning what behavior was being demanded and, even more, learning the elaborate symbols and nuances through which this behavior had to be expressed to be acceptable—these were complex learning tasks indeed. The tasks were perplexingly difficult since the interrogator seldom made these demands explicit. Only by indirection was the prisoner generally made aware of the "crimes" of which he was "accused". He had to use his own imagination and largely irrelevant events of his own life history to concoct an acceptable detailed account of things which never happened. Moreover, his "deposition" had to jibe with the more or less independent inventions of other prisoners whom he correctly presumed were in the same boat. His story had to fit the wild but unalterable preconceptions of his captors regarding the United States, the Air Force, and their operations and objectives. To escape the stress he was meeting because of what the interrogator informed him was his "incorrect attitude," he had to learn how the Communists felt a "repentant American war criminal" should behave.

The time through which these "confession" efforts dragged—two full years, in the case of one of our men—was, frequently at least, as much a function of the difficulties of shaping compliance as of inducing compliance. Not all instances of failure to comply with Communist demands can be legitimately called "resistance". In various instances, prisoners did not comply with certain Communist demands because of difficulty in learning what these demands really were.

For many prisoners, finally being able to learn what their captor wanted them to do was an achievement which afforded them considerable gratification—one of their rare gratifications in an exceedingly frustrating environment. Unfortunately, this was an instance in which the best if not the only way of learning was "learning by doing".

It should be understood that only a few of the Air Force personnel



who encountered efforts to elicit false confessions in Korea were subjected to really full dress, all-out attempts to make them behave in the manner I have sketched. The time between capture and repatriation for many was too short, and, presumably, the trained interrogators available to the Communists too few, to permit this. Of the few Air Force prisoners who did get the full treatment, none could be made to behave in complete accordance with the Chinese Communists' ideal of the "repentant criminal".

Nonetheless, the typical Chinese Communist "confession"-extortion efforts in Korea were directed toward eliciting all of the behaviors of the "ideal confessor". The extreme model consequently has significance for understanding what occurred apart from the extent to which it was realized in actuality.

I believe the mystery which pervades prevalent conceptions of Communist "confession"-extortion is due to misunderstandings of this business of the shaping of compliance, rather than that of producing compliance. Its total objective evokes images of diabolism and possession in the minds of many which now are associated with the term "brain washing". We are frequently asked for the number of our men who "confessed" and the number who "resisted". Frequently explicit, and always implicit, in these requests is an equating of "confessing" and being "brain washed".

The second chart I have prepared may help to show the difficulty we have in answering such questions:

This chart lists various behaviors which could possibly be the outcome of Communist "confession"-extortion attempts—behaviors ranging from the complete resistance visualized in the ideals of the "Code of Conduct for Members of the Armed Forces",<sup>3</sup> at one extreme, through the complete compliance implicit in the manipulative attempts of the captor, at the other. In between are various degrees, forms and admixtures of resistance and compliance, arranged in an imperfect scale.

Insofar as the data we have from our Korean War cases is concerned, this chart is a mixture of theoretical and actual behaviors. For our Korean War cases, the behaviors at the extreme of compliance are completely theoretical—they did not occur. At the other extreme, that of resistance, the behaviors occurred only during the first stages of pressure, or when the coercive attempts were unusually brief, unskilled or prematurely terminated by external events. In all our cases where

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CHART II. -RESPONSES TO DEMANDS FOR FALSE CONFESSIONS;  
RESISTANCE AND COMPLIANCE

Complete Resistance	<p>Refuses to Cooperate in Interrogation</p> <p>Refuses to Engage in any Discussion with Interrogator</p> <p>Refuses to Affirm or Deny Accusations or Respond to Implicit Accusations</p> <p>Ridicules Accusations; Refuses to Discuss Them Seriously</p> <p>Responds with Indignation to Accusations</p>
Defensive Resistance	<p>Makes Simple Denial of Accusation</p> <p>Denies that Captor has Moral or Factual Basis for making Accusation</p> <p>Makes Statements and Depositions to Prove Innocence</p> <p>Makes Statement that Suspicion was Reasonable, "Investigation" Fair and Justified, but Protests Innocence</p>
Defensive Compliance	<p>Makes Statement of Possibility that "Crime" was Unwittingly Committed</p> <p>Makes Statement of "Objective Guilt"; i.e., that Results were "Criminal" Irrespective of the Motives</p> <p>Makes Ambiguous Statement, Containing no Explicit Admissions but which Constitutes a "Confession" by Implication</p> <p>Agrees to Comply, but Fails to Carry Through; e.g., Writes "Confession", but Refuses to Sign it</p> <p>Makes Obviously Unacceptable, "Sabotaged" "Confession"; i.e., makes Deposition with Obvious Inconsistencies, Contradictions or Indications that it was Obtained Through Coercion</p> <p>Accuses Associates, but Maintains Own Innocence</p> <p>Makes Incomplete "Confession"; i.e., Simple Admission of Acts Without Supporting Details Required to Make "Confession" Convincing and Without Expressions of "Repentance", Makes Statement Rationalized as "Harmless"</p> <p>Makes "Compromise" Deposition; Bargains with Interrogator for Acceptance of "Confession" of Lesser Crime, or for Altering Details of Deposition to Make it Less Offensive</p> <p>Alternately "Confesses" and Retracts</p> <p>Completes "Acceptable Confession", but Refuses Further Cooperation; e.g., Refuses to Implicate Others, to Make Recordings, Films or Elaborations of "Confession"</p>
Active Compliance	<p>"Confesses" to "Criminal Tendencies"; i.e., Makes Statement that his Attitude was as Criminal as if he had Actually Committed Alleged Crime</p> <p>Makes "Subtly Sabotaged" "Confession"; i.e., Incorporates Veiled Communications to Outsiders, but Without Making "Confession" Unacceptable to Interrogator</p> <p>Completely Cooperates in all Explicit Demands Associated with Theme of "Confession"; Pretends to Accept Guilt</p> <p>Strives to Please Captor; to Anticipate Demands; Pretends Repentance</p>
Complete Compliance	<p>Accepts "Objective Truth" of "Guilt"; Shows Involuntary Symptoms of Remorse</p> <p>Accepts "Guilt" as Literally True</p> <p>Makes Behavioral Choices Indicative of Complete Identification with and Commitment to Captor</p>

persistent and intensive efforts to extort "confession" behavior was made by the Communists, the final outcomes were distributed through the broad range of intermediate possibilities.

Among the Air Force prisoners pressured for false confessions in North Korea and in Communist China, there are cases of simply incredible heroism, fortitude and attachment to principle in the face of particularly intensive Communist coercion. There are also cases—far fewer in number although far more publicized—of a surprising inability to withstand coercion. Nonetheless, depending upon how one chooses to draw the line, it is possible for us to say truthfully that all who were really involved resisted, or that all complied, for in truth the behavior of all involved at some point a mixture of compliance and resistance. In almost all, resistance was the dominant ingredient.

The one remaining question is why the Communists proceeded in this strange way. It is not, I am convinced, because they were guided by some esoteric knowledge and rationale which give them unprecedented ability to bend people to their will. Insofar as "confessions" for propaganda use are concerned, these could have been elicited much more quickly and easily by coupling the standard measures for inducing compliance with very explicit demands for the false statements they required. False confessions were in fact extorted from Air Force personnel more quickly and economically by North Koreans who apparently had not yet learned the Communist way of doing things. The self-castigation and ideological ranting which the Communists sought, and at which almost all of our people balked, I would think, detracts rather than adds to whatever propaganda value "confessions" might have. All this assumes that some purpose as rational as propaganda is always the major reason for extorting "confessions," and this appears quite definitely *not* the case.

The mystery associated with the things I have discussed stems not from their rationality but from their irrationality. Unlike the cynical Nazis who merely perpetrated the Big Lie, the Chinese Communist personnel whom our prisoners encountered in Korea were required to live the Big Lie.

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CHINESE COMMUNIST "THOUGHT  
REFORM": CONFESSION AND  
RE-EDUCATION OF WESTERN  
CIVILIANS\*†

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THE Chinese Communists have developed a peculiar brand of soul surgery which they practice with impressive skill—the process of “thought reform”.

The penal program responsible for these effects is just one part of the vast national policy of “*Szu Hsiang Kai Tsao*”—“ideological remolding”, “thought reform”, or, as it has become known in the West, “brainwashing”. The Chinese have vigorously applied “reform” methods throughout all levels of their population: in universities, schools, special indoctrination centers, business and government offices, and even peasant groups. Their expressed justification is the conviction that all people retain “influences of the reactionaries” or “ideological poisons” from the former, pre-Communist, society, and must be made over into “new men” in order to take their place in the “new society”. But it is in a vindictive prison setting that “reform” reaches its greatest intensity.

I have had the opportunity to spend 17 months in the British Crown Colony of Hong Kong conducting a psychiatric study of Chinese Communist “thought reform”, by means of interviews with Westerners and Chinese who had been exposed to its pressures. I had become interested in this problem through earlier work with repatriated American prisoners of war in Korea.

This paper describes only the work done in Hong Kong with Westerners. I saw 25 European and American civilians just after their expulsion from China, where they had been imprisoned from two to four

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years. I worked with each subject for an average of 15 to 20 hours over a span of one to four weeks, before his departure from Hong Kong for his homeland. They came from professional groups interested in China—missionaries, teachers, physicians, businessmen, and advanced students—most of whom had been long-term residents of China, some for as long as 40 years. The great majority had attained considerable knowledge of Chinese language and culture—a familiarity which would frequently work against them during their ordeal. All spoke good English, as this had become the *lingua franca* for foreigners in China, particularly during the post-war years.

#### THE PENAL "REFORM" SCHEME

Crime of any form in Communist China is attributed to residual, harmful effects of the "old society"; and penal institutions are viewed as therapeutic centers for "reform". They are frequently referred to as "re-education centers", "meditation houses", and "hospitals for ideological reform". The prevailing themes are "coordinating punishment and control with ideological reform", and "coordinating labor production with political education".

An editorial in *Jen Min Jih Pao* (*The People's Daily*), a standard outlet for official Communist views, further clarifies this approach:

"All crimes have definite social ideological roots. The evil ideology and evil habits left behind by the old society, calling for the injuring of others for self profit, and seeking enjoyment without labor, still remains in the minds of some people to a marked degree. Thus, if we are to wipe out all crimes from their root, in addition to inflicting on the criminals the punishment due, we must also carry out various effective measures to transform the various evil ideological conceptions in the minds of the people, so that they may be educated and reformed into new people."

I have divided the "reform" procedure which follows into four major categories. I shall present them in the general sequence in which they occur, although they always overlap and may vary in individual cases.

#### THE EMOTIONAL ASSAULTS

*Interrogation—the Incriminating Labyrinth*—The Westerner is usually arrested in a sudden and dramatic fashion. Immediately after his arrival at the prison, he undergoes a period of intensive interrogation, conducted in a uniquely harassing manner. He is taken to a room with

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one or two interrogators—who are called “instructors” or “judges”—an interpreter if needed, and a secretary. A bright light may be shined in his eyes. The interrogator opens the session with the question, “Do you know why you are here?” Or he states, “You are here because you have committed crimes against the people.” He goes on to say, “The government knows all about your crimes. This is why we arrested you. It is now up to you to confess everything to us, and in this way your case can be quickly solved and you will soon be released.” The prisoner is shocked and astonished; he is confused by this vague yet damning accusation; he feels the need to defend himself and protest his innocence. He quickly states that he is not a criminal, does not know why he has been taken into custody, is not aware of having committed crimes against the people, and is sure that there must be some mistake. But he is bluntly told, “The Government does not arrest innocent people.”

The interrogator then asks the prisoner to describe in detail all of his activities from the time he first came to China—his professional interests, the groups with which he was associated, the people with whom he worked, the political activities in which he has engaged, and complete details of his social life and of his economic status over the years. As the prisoner tells his story, the interrogator asks him about certain aspects of it in particular detail: friendships or associations with American consular or military officials, with “reactionary” religious groups, or with members of the former Nationalist regime. Exhaustive details about contacts and conversations with others are demanded.

The prisoner at this point is anxious to produce these facts as accurately as he can in order to clear himself. But no matter what he says, the interrogator always responds, “There is more. You are not telling us all. You must be absolutely frank.”

The session becomes increasingly disturbing to the prisoner; he feels frustrated, because no matter what he says, he cannot get his ideas across or satisfy his inquisitor. After several hours his fatigue and discomfort are such that he is likely to develop an overwhelming preoccupation with finding some way out of this intolerable situation.

The first interrogation may end at this confusing point. Or it may continue throughout the night, and for several consecutive days and nights. When the prisoner is near collapse, he may be taken back to his cell, led to believe that his ordeal is at least temporarily over, and permitted to sleep. But after about an hour of rest, he is abruptly awakened

and brought back to the interrogation room. Soon his denial of guilt brings about dire repercussions—the application of handcuffs and chains.

Interrogations—varying from a few hours to all-night sessions—continue relentlessly as the main feature of the first one to three months of imprisonment. The prisoner develops an increasing need to discover a means of meeting the demands of the interrogator, of somehow satisfying him; he finds himself producing a great deal of information. A Catholic missionary, Bishop C., has described this situation as follows:

"After a while one wants to talk . . . they press you, so you feel you must say something. Once you start you are deceived: you are at the top of the tree and you go down. . . . If you say the first word, there is always something more: '*Lao shih*' [No, no, be a good boy! Say the truth!] '*T'an pai!*' [Confess!] is constantly repeated every two minutes. I felt myself wanting to say more to make him shut his mouth. He was so insisting. . . . It was torture. . . . They would say, '*T'an pai tzu chiu*'—confession is self-salvation. It made me weak; it made me want to give in. . . . After a while I wanted to help them. I thought if I can make the question clear, he will know who I am and what I am, and be able to judge me. The more you know the better it is for me. I thought I had done nothing wrong."

"*Struggle*"—"Help" from "*Fellow Students*"—When taken back to his 8 by 12 foot cell after an interrogation, the prisoner finds that his nightmare is far from over. He is immediately set upon by his Chinese cellmates, led by their appointed chief, who demand to know what has taken place during the interrogation session. They initiate what is called a "struggle" to "help" him with his confession: the foreign victim sits in the middle of the cell while the six or eight prisoners form a circle around him, each in turn shouting invectives at him, denouncing him as an "archcriminal"—a "stubborn imperialist who refuses to recognize his crimes." They point to his chains as a symbol of his stubbornness: "You want the chains—if you had been sincere the Government would not have used them."

The cellmates are a specially selected group, "advanced" in their "reform" process, each one skillful and severe in his criticism of others. They have made their "confessions", have adopted the "correct standpoint", and are striving to "gain merits" toward their own release. And their "chief"—usually a man badly in need of merits because of his "reactionary" background—makes daily reports to one of the prison inspectors on all activities in the cell. He has outstanding talent in the extraction of confessions and receives continuous instruction from above concerning the methods to be used on the newcomer.

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These "struggles" may be continuous during the early phases of imprisonment, so that the victim finds himself without relief—interrogated by night, and "struggled" by day. The scientist, Dr. J., has described the disturbing effects of this ordeal as follows:

"When you get back with your chains your cellmates receive you as an enemy. They start 'struggling' to 'help' you. The 'struggle' goes on all day to 8 p.m. that night. You are obliged to stand with chains on your ankles and holding your hands behind your back. They don't assist you because you are too reactionary. . . . You eat as a dog does, with your mouth and teeth. You arrange the cup and bowl with your nose to try to absorb some broth twice a day. If you have to make water they open your trousers and you make water in a little tin in the corner. . . . In the W.C. someone opens your trousers and after you are finished they clean you. You are never out from the chains. Nobody pays any attention to your hygiene. Nobody washes you. The lice grow and grow. . . . In the room they say you are in chains only because you are a reactionary. They continuously tell you that if you confess all, you will be treated better. . . . You start to think how to get rid of these chains. You must get rid of the chains."

The guilt-stimulating effects of interrogation and "struggle" have been emphasized by Bishop C.:

"What they try to impress on you is a complex of guilt. The complex I had was that I was guilty. . . . I was a criminal—that was my feeling day and night."

The "help" offered by the cellmates may include not only persuasion, but also insult and even physical violence. A European businessman, Mr. W., experienced abject humiliation:

"They put me against the wall, gave me a brush and an old Chinese cap, and told me to paint *wamba* [tortoises]. They said I must do this because I myself was a *wamba*. This is a very low creature, and it is the greatest insult to be called a *wamba* by a Chinese. . . ."

Sometimes the "help" is actually well-meant, offered by a sympathetic person such as a religious colleague, who is placed in the cell because the Communist authorities know that even his help will be in the direction of confession. And it can become extremely difficult to distinguish between "real help" and "Communist help".

*The Breaking Point*—Other features of the imprisonment contribute to the breakdown process. The food, although adequate for survival, is usually poor in quality. The prisoner frequently suffers from severe diarrhea, dysentery, or other gastrointestinal disorders, as well as from vitamin deficiencies. He is allowed only two brief visits to the toilet

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each day, and these are hardly relaxed excursions: at a given signal the cellmates must run, head down, to an area where there are only two open toilets, and the six or eight of them are allowed precisely two minutes for the entire procedure. This gives each person approximately 30 to 45 seconds to attend to his needs, and should he take longer than this, he receives sharp criticism upon his return. The cells themselves are so crowded that during the night the prisoners cannot turn individually, but must do so en masse at a signal from the cell chief. Because the Western prisoner finds it particularly hard to adapt to these conditions, he may be repeatedly singled out for criticism by his Chinese cellmates. His every word, movement, or expression is noted and may be reported back to the authorities. He is never addressed by name, but only by prison number. The small cell, with its seven or eight hostile and contemptuous fellow inmates, becomes his entire world. All that went before is negated. A European physician, Dr. H., has described this:

"There is the destruction of your personality. . . . I say, 'I am a doctor. . . . I was here 20 years.' . . . They say, 'You are not a doctor. . . . You are just an imperialist spy.' . . . They start to question you about everything you did as a doctor to cover up your spy personality."

After two or three months of this treatment, the prisoner is greatly fatigued, undernourished, and physically ill; he is highly confused, has confessed a great deal of material, and may no longer be able to demarcate clearly the boundaries of truth and fiction. He is guilt-ridden, demoralized, and depressed, frequently to the point of being suicidal or experiencing transient psychotic symptoms. A European manufacturer, Mr. T., has described how he became markedly depressed:

"They scolded me in a nasty way. I had the feeling that everyone was cross with me and despised me. I thought, 'Why do they despise me? What have I done?' . . . I was eating very little. . . . I refused to eat or drink. . . . I felt very much down. I felt there was no chance for me. . . . It was so utterly hopeless. For six weeks I did nothing but think how I might kill myself."

#### "LENIENCY"—CALCULATED KINDNESS

At this point, when the prisoner has reached or gone just beyond his breaking point, he encounters a dramatic change in attitude: the Communist officials become suddenly understanding, are almost apologetic about the harsh treatment he has received, and promise to make things much more comfortable for him in the future—if he will only "cooperate" with the Government. That moment came for Bishop C.

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after about two and a half months of alternating interrogation and "meditation":

"It was Christmas Day. I was brought to see the judge. For the first time I found the room full of sunlight. There was no guard and there were no secretaries. There were only the kind faces of the judges offering me cigarettes and tea. It was a conversation more than a questioning. My mother could not have been much more good and kind than the judge was. He said to me, 'The treatment you have received here is really too bad. Maybe you are unable to stand it. As a foreigner and a priest, you must be used to good food and better hygienic standards. So just make a confession. But make it really good, so we can be satisfied. Then we will close your trial and finish your case.'"

This shift in tactics invariably has a tremendous effect; it can be a crucial step in the extraction of a confession and in the over-all "re-form". The prisoner views it as a potential turning point in his destiny: he sees the first hope for a way out of the heretofore insoluble morass of confusion and misery. He feels grateful to the Government for its leniency in stopping the accusatory interrogations, for improving the attitudes of those around him, and for bettering the conditions of his existence. He will eagerly do anything that is required of him to avoid a return to his former plight and to work toward his release. He will even take the initiative in anticipating his captors' desires and do everything possible to identify with their point of view. The prison officials recognize this, and utilize these feelings effectively in stimulating his confession and initiating the organized "re-education" phase. They give him friendly advice and books to read, in a new spirit of working together toward a common goal.

But leniency may be transient and fluctuating; kindness may alternate with vindictiveness in effective combination. Dr. J., the scientist, has reported the alternation between periodic leniency and the revival of the emotional assaults:

"After two months they take off the chains and speak more nicely to you. . . . You start to write your confession. . . . They supervise and help you. . . . You don't resist any more. If you try to say, 'This I didn't do,' you go in chains again. . . . This happened three times to me, but each time the chains came off in two or three days."

#### CONFESSION

The prisoner continues to encounter on all sides the clamor for confession—which has been the theme of every interrogation, every "struggle" and all informal "help" sessions from the first moment of

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imprisonment. "Confess! . . . Confess all! . . . You must be frank! . . . You must show your faith in the Government! . . . Come clean! . . . Be sincere! . . . Recognize your crimes! . . ." are hypnotically intoned by "judge", "instructor", and "fellow students". It is always made clear to the prisoner that the "progress" of his confession is the most important task which confronts him—the major criterion by which he is to be judged by the Government. Everything he has said in the interrogations has been recorded, and then written out by him repeatedly in his cell. Now he must further develop this material and organize it into his final confession document.

The prisoner is given special forms to fill out, requesting detailed information about past associates. At first his comments are descriptive; but gradually they become exposés and denunciations, which cause him a great deal of conflict and guilt. His interrogation may be stopped for a period of a few days or a few weeks, during which he is told to do nothing but write his material. If he is in a cell with others, he may be forbidden to speak to them so that he can concentrate fully on his writing.

*The "People's Standpoint"*—When the prisoner reaches a state where he will talk freely about all of his activities, the interrogator begins to guide him towards a "recognition of his crimes". The prisoner must learn to adopt the peculiar reasoning process and attitudes known as the "people's standpoint", which means accepting the prevailing Communist definition of "crimes", and learning to feel, or at least verbally express, guilt and responsibility for them. It is made clear to him that *"the people's standpoint makes no distinction between news, information, and intelligence"*.

The scientist, Dr. J., has graphically described the development of this vitally important process:

"For instance, I was the family physician and friend of an American correspondent in Peking. We talked about many things, including the political situation. . . . The judge questioned me again and again about my relationship with this man. He asked me for details of everything we had talked about. . . . I admitted that at the time of the 'liberation,' when I saw the horse-drawn artillery of the Communist Army, I told this to my American friend. . . . The judge shouted that this American was a spy, who was collecting espionage material for his spy organization, and that I was guilty of supplying him with military intelligence. . . . At first I did not accept this, but soon I had to add it to my confession. . . . This is adopting the people's standpoint. . . . After that you accept everything. . . . You are annihilated. The judge is the real

master of you from that moment. . . . He then says to you: 'How many intelligences did you give to S. (the American correspondent)?' So you think of more intelligences. . . . In the cell, 12 hours a day, you talk and talk—you have to take part—you must discuss yourself, criticize, inspect yourself, denounce your thought. Little by little you start to admit something, and look to yourself only using the 'people's judgment.' . . . You have the feeling that you look to yourself on the people's side, and that you are a criminal. Not all the time—but moments—you think they are right. 'I did this, I am a criminal.' If you doubt, you keep it to yourself. Because if you admit the doubt you will be 'struggled' and lose the 'progress' you have made. In this way they build up a criminal."

*Progress in Confession*—The confession is so constituted that it has its beginnings in concrete events and then proceeds into the realm of fantasy. The Communists seek to build up a damning indictment which has the ring of credulity; it begins with events which did occur, and evolves as a step-by-step "logical" explanation with ostensibly plausible "evidence". The improvement of a prisoner's confession is a continuous process which does not end until the moment of his release—and for some not even then. It is the demonstration of his "frankness", his "repentance", and his "progress".

As the confession develops, the prisoner finds it looming before him as the basic reality of his immediate world, no matter how much it is at variance with the truth as he previously understood it. What he admits and what he writes become standing truths, and a lever for additional confession pressures, creating a vicious circle of accusation and guilt. The European scientist, Dr. J., has stated:

"You look at your confession in a strange way. You feel it is a compulsion. You know about the lenient policy—that no one is ever shot if they admit their crimes. And if you don't resist in the cell you get better treatment right away. . . . Later when you are looking at yourself from the 'people's standpoint' you say, 'If they look at this as intelligence, that's not my mistake. They look at the world in another way, and there is no way to escape.' And after you start to invent, you try to build intelligences in order to satisfy them and get out of jail. You build something they can believe, and every nonsense you can remember you put down as intelligence. . . . At the same time you try to remember the general trend of your confession, not to confuse yourself—one year with R., three years with the American Consul—to follow a regular pattern, and think of an easy date to be ready to answer with the next time. . . . They build up a spy mentality. . . . Then your invention becomes a reality. They lead you to build up the crime. . . . If you say you gave forty intelligences to R., the next time you say you gave him fifty. Then this fifty becomes a reality to you."

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Later the Communists switch the emphasis back to those elements in the confession which have at least a partial basis in reality. Some of the completely fantastic content may be dropped or de-emphasized; and in some cases, the prisoner is permitted—or even required—to retract the blatantly false material.

Thus, with a Catholic priest, the compounding of real events, exaggerations, distortions, and falsehoods, viewed through the reasoning eye of the “people’s standpoint”, follows this general sequence: He is guilty of “espionage” and is therefore a “spy”, has been a “lifelong spy”, and was trained in missionary school to come to China in order to do this espionage work “under the cloak of religion”; his local mission is a “spy organization”, collecting information from pupils and Christians to be sent to the great “espionage center” of the Vatican; and, finally, his work throughout his entire career in China has been “against the interests of the Chinese people”.

For other Westerners the confession pressures follow a similar pattern: “espionage” in association with American military, government, or intelligence agencies; or “economic crimes” and “reactionary activities” while assuming business, professional, or student status. The focus is on a few specific “crimes”, so that the confession can be “documented” with details of precise names, places, and events.

#### RE-EDUCATION

*Hsüeh Hsi—The Study Group*—“Re-education” begins at the time the prisoner is arrested; but “leniency” is usually the signal for his participation with his cellmates in the specific group study program or “*Hsüeh Hsi*”. Study group sessions take up almost the entire waking existence of the prisoners—10 to 16 hours a day. One person reads material from a Communist newspaper, pamphlet, or book; then each of the group in turn is expected to express his own opinion, and to criticize the views of others. Everyone must actively participate, or be severely criticized. Each must learn to express himself from the “correct” or “people’s” standpoint—now extended, as a general Communist frame of reference, to all areas of thought. The zeal of the participants is overwhelming, for each prisoner feels that his freedom or even his life may be at stake. It is repeatedly emphasized that every question or problem—political, economic, ethical, or psychological—must be solved by the group by means of “discussion” and “persuasion”, never by force.

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The more problems a prisoner presents, the better his standing, as long as he submits to the "correct" solution. The impact of this one-sided procedure has been described by the scientist, Dr. J.:

"They put in evidence, in a compulsory way, the progress of the people. The people have a future. The theories of Marx about history teach us that imperialism is condemned to be destroyed. . . . They put in evidence all the examples of repression by the imperialists in China, the missions, their charity, helping landlords, helping the KMT—all against the people. . . . They put in evidence the development of the Soviet Union—its industries, re-education, culture, uplifting of the people, the friendly help of the Soviet to China. They told us of the victory against imperialism in the Korean war, the gradual remolding of Chinese society, the three- and five-year plans in order to arrive at socialist society, the transformation of agriculture, the development of heavy industries, military improvement to defend the people, peace movement. . . . They solve every problem through discussion—the Korean war, the Indo-Chinese war. . . . They never use force; every question is solved through conference."

Particular emphasis is placed on "thought problems", especially "wrong thoughts" or "bad thoughts", which each prisoner is required to express and denounce "spontaneously" before the group.

A European priest has commented on the nature of "bad thoughts":

"They tried to change your thoughts by making you come out with bad thoughts, always asking for bad thoughts. If you come out with bad thoughts, they will sometimes criticize you, but not always—because of the fact that coming out with bad thoughts is considered something good. . . . They would always say that if we did not express any bad thoughts we were not telling the truth—not being frank—because as reactionaries we must have bad thoughts. We were all considered 'thought-sick' and could not be cured unless we came out with wrong thoughts."

Self-criticisms and criticisms of others in the group follow a definite pattern and have their own vocabulary. Each prisoner must examine his own "reactionary" tendencies, and then search out the causes for these in his early life. He must expose past "bourgeois" and "imperialistic" influences, as well as current "individualistic" or "subjective" traits. Cellmates, in their stereotyped criticisms, are particularly on the lookout for any tendency to resist full emotional participation in "reform", such as "spreading a smoke screen" (using special phrases, actions, and attitudes to hide true inner feelings), and "window dressing" (doing as much as is needed to get by without giving oneself up fully to the program). They also routinely accuse the prisoners of "opportunism" or of "finding a loophole", "assuming an appearance",

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"failing to combine theory with practice", "forming alliances", "shielding one another", or "buying good will with food"—that is, attempting to win favor by friendly overtures.

A portion of the study hours is devoted to highly moral daily-life criticisms. He who is not doing his share in the cell does not have the "correct labor point of view"; he who takes up too much room when he sleeps is guilty of "imperialistic expansion"; he who drops or breaks a plate is "wasting the people's money"; he who drinks too much water is "draining the blood of the people". One must "spontaneously" confess any misbehavior in the cell, whether it be slight rudeness to a fellow prisoner, taking too much time for a bowel movement, or homosexual relations with a cellmate. A demonstration of "complete faith in the Government", would be to confess in lurid detail examples of personal immorality, such as opium smoking, sexual promiscuity, or heavy drinking. Under this type of pressure, Catholic priests have confessed to heterosexual and homosexual relations, even in cases where there was some question as to whether these really occurred.

On the basis of the reports he is receiving, an official may further manipulate the cell group. If a group is not active enough in "solving problems", it may be broken up, or one or two "advanced" prisoners may be brought in. A chief who is not sufficiently effective may be demoted and the other prisoners now have an opportunity to "struggle" their former tormentor.

*The Individual Approach*—The instructor specifically responsible for a case gains considerable understanding of the prisoner's psychological susceptibilities. He utilizes this knowledge to undermine and discredit the prisoner's basic life patterns.

A rigidly moralistic European priest, Father A., has described this in an exchange initiated by his instructor:

"Do you believe man should serve others?"

"Yes, of course I do."

"Are you familiar with the Biblical saying, 'I come on earth to serve, not to be served?'"

"Yes, as a priest it is my creed."

"Did you have a servant in your mission?"

"Yes, I did."

"Who made your bed in the morning and swept the floor?"

"My servant did this."

"You did not live up to your doctrine very well, did you, Father?"

Father A. has explained the instructor's technique as follows:

"They believe that in each person there is a thesis—his positive element, work, or creed; and an antithesis—his weakness which works against this. The thesis in my case was the Catholic and my missionary work. My antithesis was anything which worked against this due to my personal shortcomings. The Communists attempted to wear down my thesis and encouraged the development of my antithesis. By making the antithesis stronger and the thesis weaker, they seek to have the antithesis replace the thesis as the dominant force in the individual."

The instructor keeps the case file, receives all reports, and also conducts individual interviews with the prisoner. He can be kind or critical, understanding or rigid. It is no surprise that prisoners refer to him as the "analyst" or "case analyst", and each prisoner forms a complex and ambivalent relationship with his analyst.

After years of re-education, conducted entirely in the small cell—where the prisoner eats, sleeps, studies, denounces, and confesses—his analyst may consider him "relatively advanced". The prisoner will then be shifted to a special wing where he is permitted such luxuries as a recreation hour in the cell, usually devoted to games, or brief outdoor exercise periods. These are treasured privileges which he will strive to retain.

*Trial and Release*—Eventually, the prisoner is put to work on the final drafts of his confession, which he writes in his own language and in Chinese if he is able. He signs the document at an elaborate ceremony before photographers and moving-picture cameramen, and reads it for sound recording. This highly convincing "proof" is then widely disseminated throughout China and other parts of the world, and can have tremendous propaganda impact.

This same occasion may serve as his "trial". Thus, after a period of up to five years of incarceration—devoted to "solving his problems"—he receives simultaneously his official charge and sentence. In recent cases the "trial" has tended to become more and more formalized, and a "defense counsel" has been supplied the prisoner, although he never does more than plead for "leniency". There is never a plea of "not guilty", since the prisoner has already confessed his "crimes" and is—at least outwardly—abiding by a system which maintains that "the Government never arrests innocent people". In any case, he has no desire to risk his chance for release. Prisoners receive varying sentences—some for as long as ten years; but most of them are told that because of the



"lenient policy" they are to be immediately expelled from China. A few Westerners have been transferred to another prison to serve time on their sentences and to undergo "reform by labor", a much less emotionally involving procedure. However, the timing of a Westerner's trial and release is determined more by broad political—usually international—considerations than by his "progress" in "reform".

#### DEATH AND REBIRTH—THE EFFECTIVE OPERATIONS

"Thought reform", for the individual prisoner, is an agonizing drama of death and rebirth. The "reactionary spy" who entered the prison must perish; in his place must arise a "new man", resurrected in the Communist image. Such symbolism is frequently spelled out by the Communist officials, so that the prisoner directly perceives that he must "die and be reborn", and may use these words in describing his experience.

What brings about this transformation? As the severe pressures of the environment close in on the prisoner, offering him ever-narrowing alternatives for adaptation, a series of *operations*—or manipulation-response combinations—take place. These operations are the *effects of transactions* between victim and environment, expressed from the point of view of the victim. The overwhelming power of the environment makes these operations repeatable in prisoners of varying personality and cultural backgrounds. I have delineated eleven of these operations which occur during the four major stages.

#### *Emotional assaults—the symbolic death*

1. *The annihilation of identity.* The incriminating labyrinth of interrogation, the devastating social pressures of "struggle", and the additional array of physical and emotional blows destroys all feelings of inner identity, of being a specific person, or of belonging to a group. The victim is reduced to a primitive, subhuman level of reactivity, in which he is highly vulnerable to the ensuing operations.

2. *The establishment of guilt.* Condemned by interrogators and cellmates, the prisoner—quickly and inevitably—comes to feel a sense of guilt. Indeed, he often perceives this as a direct command—"You must learn to feel guilty." He is so permeated by the atmosphere of guilt that external criminal accusations become merged with his subjective feelings of sinfulness—of having done wrong. Rather than experiencing resent-

ment, he feels that he must deserve this punishment. *His pervasive inner pain is experienced as guilt anxiety.*

3. *The total conflict with an inflexible environment.* The prisoner is projected into a position of complete discord with his milieu, both in his behavior and in his reality standards. Everyone treats him as an enemy. And he cannot accept—or even understand—the alleged “truths” about his past activities. He is hopelessly lost in a strange prison culture whose cues he cannot master. *He is cut off from the essential succor of communication and relatedness, without which he cannot survive.* And it is made clear that the Government’s infallible “realities” must remain absolute. He, the “stubborn criminal”, is responsible for his plight, and it is *he* who must change. The total conflict causes him overwhelming anxiety, and induces marked inner dissension—the “divided self” of William James. A solution is desperately needed, and it is one which must come from within.

*Leniency—the opportunity for rebirth*

4. *The adaptational solution.* With the easing of pressures, or psychological unplugging of the milieu, the impasse is broken. The prisoner has his first opportunity to achieve some degree of harmony with his outside world. The environment has not budged from any of its reality standards; it has merely eased its assaults sufficiently for him to absorb its principles and adjust to them. It is still the victim who gives way: his adaptational solution is contingent upon *his* change—his meeting the demands for “confession” and “reform”. *Seeking to maintain the solution at all costs, he becomes motivated to help the officials to achieve these two goals in himself.*

*Confession—the bridge between death and rebirth*

5. *The confession compulsion.* The prisoner is told that he can and must atone for his guilt through confession. Everyone around him demands that he confess; and he must also help others in their confessions. Thus a ubiquitous confession compulsion sweeps the environment, and personal confession becomes an inner necessity for the individual victim.

6. *The channeling of guilt.* Experiencing guilt, and feeling the need to confess, the prisoner must now learn a conceptual framework for the expression of guilt and atonement. Through the “people’s standpoint”, he channels nonspecific feelings of guilt anxiety into a paranoid, pseudo-

logical system. He begins to view past events as an outgrowth of personal evil and destructiveness; his guilt becomes attached to specific actions, real or fantasied.

7. *The coercive confabulation, or final confession.* He finally arrives at his ultimate confession, which symbolizes his atonement and submission. He produces it as a complex adaptational device, made necessary by the summation of pressures. He is guided, step by step, through a series of relatively limited distortions, each readily established by viewing his past actions from the "people's standpoint". His fantasies and falsehoods are molded by the environment, but he also contributes a creative element. *The final confession is his subjective perception of environmental demands, incorporating his newly acquired guilt-ridden evaluation of past actions.* His emotional involvement in the repeated revisions enhances his inner acceptance of their contents, whether or not they are true. Although the end product may do outrageous violence to concrete facts, its beginnings in real events, the logic of its distortions, and its documented flavor may make it quite believable—to the outside world and to its creator as well. Having emptied himself completely, he is well on his way to rebirth.

*Re-education—the rebirth*

8. *The broadening of guilt.* The prisoner's guilt, which has earlier been channeled into specific categories, is now expanded to include the major elements of his basic identity. He "learns" that—as a "messenger of imperialist conquerors"—his entire life has been in the service of evil. He feels in need of thorough personal "reform".

9. *Adaptational rewards.* His "progress" brings meaningful psychological rewards. Following the unbearable pain of the early period, these can assume immense meaning to him. During the latter months of imprisonment, when he has adjusted to the "academic routine" of "re-education", he experiences the "togetherness" of intimate group living, suffering, and "reform"; the rewards of self-surrender—of merging with an all-powerful force and sharing its strength; the satisfaction of problem-solving, in which nothing remains unanswered; the rewards of uncovering—the catharsis of personal confession and the satisfactions of "frankness"; the increased prestige and improved treatment that go with being a "progressive"; and finally, the moral satisfaction of participating in a great crusade of redeeming oneself and others—and, on a mass

mystical level, of joining the "struggle for peace", the "human brotherhood", the "fight for equality", and the "great Communist future".

10. *The "working-through"*. The prisoner must express, act upon, and *live* the principles of "thought reform"—that is, in Communist terminology, he must "combine theory with practice". He may at first do this only outwardly, and then ritualistically—as if reciting a catechism; but through his interminable "group therapy" he eventually finds himself thinking and *feeling* in terms of these "truths". He must constantly "analyze" his alleged deficiencies, his "thought problems", and his "resistances". "Depth interpretations" are available for all varieties of nonconformity. Everything is reducible to the "insights" of the Marxist doctrine; he "works through" every barrier to "reform".

11. *The recoding of reality*. Finally, he approaches the ultimate attainment of "thought reform"—the acquisition of a new view of the world, and of a new personal relationship to the world. He reconstructs his communication techniques, shifts his role behavior, and alters his values and his identity. He has accomplished this vast recoding chiefly through a two-step reinterpretation of his own past and present status: from kind missionary, or teacher, to evil spy, and from evil spy to repentant sinner. And he applies a similar reinterpretation to all spheres of thought and behavior: the Communist world, formerly considered aggressive and totalitarian, is now seen to be peace-loving and democratic. He identifies himself fully with his captors. He is happy in his faith. He has been reborn.

#### IMPACT AND ORIGINS

What is the key to the thought-reform process? Does it represent anything new and mysterious? Certainly, there is nothing in it that is beyond comprehension, and nothing totally unprecedented in Eastern or Western cultural history. Crucial to the momentum of "reform" is the utilization of guilt anxiety, along with moral exhortation, to induce confession. But elements of these conversion methods have been employed by proselytizing religions and mass movements throughout history—for instance, in the Inquisition, the Roman Catholic confessional, and in the practices of the Russian Orthodox Church, Protestant revivalist denominations, and a more modern group movement—Moral Rearmament. Another striking feature is its "therapeutic" approach—its emphasis on "help", "analysis", and "insight". But neither is this new:

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it has been developed much further in Western psychiatry; and, before psychiatrists thought of it, other groups, such as the Zen Buddhists, were using similar principles. "Thought reform" also contains an important suggestive and hypnotic aspect; but such approaches have been recognized since the time of Mesmer, and have been exploited in, for instance, Couéism.

There is one technique, however, which represents a real psychological contribution, and enables "thought reform" to mold these religious, therapeutic, and hypnotic methods into a powerful, cohesive process. This may be called *milieu control*. *The Chinese Communist prison is probably the most thoroughly controlled and manipulated group environment that has ever existed.* Its system of communication—from officials to cell chief to cellmates to prisoner—is virtually airtight. Through this unparalleled human recording and transmitting apparatus, the prisoner's every word, action, or show of feeling becomes quickly known to the officials; and their subsequent maneuvers can be immediately conveyed back to him, magnified by overwhelming group pressures.

Milieu control also eliminates any possibility of reality testing or consensual validation. The prisoner can receive no alternative ideas, nor can he obtain corroboration of beliefs from a sympathetic listener—except when he speaks from the "correct standpoint". He is a helpless pawn in the hands of an all-knowing, all-powerful force. *More and more, the external milieu replaces his internal milieu, bringing about reform from within.* Thus the individual prisoner reforms himself, the group reforms itself, and the prison community reforms itself.

As the predominant characteristic of "thought reform", milieu control is the source of its awesome grip on the individual victim—the disturbing quality so vividly anticipated in George Orwell's novel, *Nineteen Eighty-Four*. Orwell envisioned universal milieu control through complex mechanical apparatus such as the two-way "telescope"; *but the Chinese have accomplished it via the human mechanism*, thereby extending their control even more deeply into the prisoner's innermost world. In an age of great technological and psychological advance, milieu control is a method which bears watching.

*Is penal "thought reform" foolproof?* Fortunately, it is not. Milieu control, although thorough, can never be absolute; and the operations do not always proceed as smoothly as my composite data and schematic

analysis might suggest. The process is limited both by its over-ambitious goals and by the remarkable adaptations and resistances which human beings can call forth under severe stress. It does almost invariably succeed in one of its two major aims—the extraction of a luridly incriminating confession of guilt. But it falls far short of its second, the “reform” of the Western prisoner.

Virtually all prisoners behave during their incarceration in a “reformed” manner; but most of them are profoundly affected by crossing the border from Communist China into Hong Kong. According to their post-reform responses, they fall roughly into three categories: first, the small group of the most “successful” victims, who strongly internalize their “confession” and “reform” principles for a considerable period of time beyond their release; second, another small group who show relatively minor effects—sometimes because of their particularly effective defenses, but more often because they have encountered less severe or prolonged pressures; and finally—the great majority—the in-between group who, although they emerge from prison deeply confused, begin immediately after their release to question and seek to understand their experience.

Nonetheless, “thought reform” brings forth what may be the most advanced “soul engineering” yet devised in the attempt of a secular religion to cast out its devils, to force its real or imagined heretics to recant, to win converts by the emotional sword. As when the church threw its witches into the fires, it is done in the name of the unity of man, allegedly for his ultimate benefit.

Perhaps in a peculiar sense the world is indebted to the creators of this bizarre process for the valuable knowledge which it conveys—on an ethical as well as a psychological level. The issues are not new; but their exaggerated expression here throws them into particularly sharp focus. Man is never ultimately benefited or unified through methods which in themselves attack him and destroy his dignity. To abuse the mind and body, to turn man against himself, to dissolve his trust in others—whatever the justifying cause—can only result in the fragmentation of the human organism, where integration is so desperately needed.

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## LEGAL BACKGROUND OF COMMUNIST METHODS OF INTERROGATION AND INDOCTRINATION\*

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### PRELIMINARY NOTE

**C**OMMUNIST methods of interrogation and trial of accused may possibly have changed during the past six months. As part of the de-Stalinization program, announcement was made, first, that Soviet prosecutors must prove their case against an accused; second, that confessions of prisoners are not conclusive as evidence of guilt; third, that a "free defense" or its equivalent will be permitted. Evidence is not yet available whether or how the announced policy is carried into practice. Something like it was allowed in the trial of the Poles accused in connection with the Poznan demonstration last June but this may have been due to special circumstances rather than to changed practice. Observations hereafter made are subject to the proviso that a change in the system may be in process. In making them the effect of the recent announced change is not considered.

Communist handling of individuals accused of any offense differs radically from Western concepts. Two roots are important.

*First*, under both Leninist and Stalinist doctrine, trial of an accused is essentially a political, not judicial, matter. Opposition to the Communist State (or, outside the Communist State, to the Communist Revolution) is considered criminal whether or not the opponent is within or without the borders of the Communist State. By consequence, prisoners of war are assimilable to political prisoners.

The assumed ends of the Soviet State in any given legal proceeding are, first, the enforcement and forwarding of the socialist policy in-

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volved; second, conversion or conscription of the individuals involved into a frame of mind and norms of activity useful to the Revolution. (In Soviet theory, the State is the organization of the Revolution; for "Revolution" we can hereafter use the word "State" wherever the Communist Revolution has seized the government.) The whole process, from beginning to end, is designed to strengthen and reenforce the Communist Revolution—that is to say, the State, and to give effect to its policies and plans.

In 1937, Vyshinsky (whose early career was as prosecutor and legal theorist) defined the basis of Communist law as

"Awareness of the necessity to proceed in a manner required by the socialist revolution and the socialist State of workers and peasants",<sup>1</sup>

and Communist jurists said quite frankly that law must be guided by "revolutionary expediency which helps us in our work of reconstructing society along socialist lines. The problem of expediency should predominate over the form of law."<sup>2</sup>

In sum, as reported in 1940 to the Soviet Institute of Law and the USSR Academy of Science, the "norms of socialist law" are primarily important as "powerful means of building Socialism and Communism."<sup>3</sup> Procedure and dealings with accused are based wholly on that premise.

Article 9 of the 1926 Soviet Criminal Code stated the purpose as follows:

"(a) to prevent commission of future crimes by the same offender (b) to influence other unstable members of society and (c) to adapt the offenders to the conditions of the community life in the toilers' State . . . The question of retaliation or punishment does not arise."<sup>4</sup>

The accused, in a proceeding which is thought to affect the stability of the State, is thus one of the *dramatis personae*. His claims are recognized or not depending on whether their recognition will, in the view of the Court, contribute to the effectiveness of existing Communist policy.

The *second* root long antedates the Communist Revolution and is probably derived from Greek-Catholic practice in certain Slavic regions. The late Anne O'Hare McCormick, discussing Soviet procedure in extracting confessions from prisoners, observed to the writer that in the Slavic Balkans and in South Russia the Greek-Orthodox Catholic



practice of confession differed somewhat from our more familiar Roman Catholic practice. The penitent made his confession to the "pope" or priest, in a sort of running conversation. The priest felt quite justified in questioning him to discover whether he had told all the truth, and frequently sent him home admonishing him to search his conscience and memory, and to return to make fuller accounting. When the priest was satisfied that he had a fair or adequate disclosure, he imposed penance and gave absolution. It is difficult not to believe that this practice influenced Communist administrative practice leading up to trial.

Apparently some Communist jurists think so. E. P. Pashukanis considered that criminal proceedings included the ideological motive of purification and redemption,

"and thereby to make out of criminal law—built on the principles of private vengeance—a more efficient means of maintaining social discipline (that is to say, class dominance)",

and he attributed the origin of the idea to the Byzantine priesthood.<sup>5</sup>

"Crime and punishment . . . acquire their juridic nature on the basis of the redemption arrangement. Precisely as this form is preserved, so is the class struggle accomplished through law."<sup>6</sup>

I do not see that Vyshinsky discredited this theory in his criticism of Pashukanis in 1938.<sup>7</sup>

If these two principles are combined, the writer suggests that the handling of prisoners or accused in the Communist system becomes both logical and clear, however distasteful to Western concept. The object is not to shield or guard the individual (save for the purpose of extracting useful information) or even to deal with the exact facts leading to his accusation. Rather, the object is to take the circumstances, with the individual as part of them, and so handle them that the Communist State and its then prevailing policy will be strengthened and forwarded. It would serve no purpose whatever in the resulting political process of a court trial, to give the accused an opportunity to prove that the facts stated by the State were wrong, that a mistake had been committed, and that he ought to be discharged. This would tend to discredit the prosecutor who presented the case, the police or administrative officials who had worked up the facts, and the entire proceeding from beginning to end. (Unless, of course, Communist policy at the moment required that the procuracy or the Court be disciplined, weak-

ened, or exposed, which occasionally though rarely happens.) If it is ascertained that no profit can be had from a trial, the obvious solution is simply to release him, and let it go at that. Professor Gsovski observed that the law was an instrument of rulership, not placed above the government but in its hands, as a tool in creating a new social order.<sup>8</sup>

So far as the individual is concerned, the business of the revolutionary government is to bring him into its operative apparatus, and to eliminate those that can not be made useful to the system in some way. Consequently, the handling of an individual from the time he is accused to the time he is ultimately liquidated, punished or released is dictated by the design either to make him useful within the system, or to use him as an example to make others more useful. He is, therefore, examined repeatedly until he is drained dry of all information not only about himself and his acts but about every possible associate and every possible bearing which the circumstances may have on other situations. Thereafter attempt is made to require him to realize or at any rate acknowledge that he has contravened the policy or opposed the operation of the State, and that he erred in doing so, and to make him a more or less reliable agent of Communist society thereafter. For trial purposes, he is under pressure to frame his statement in such fashion that it will have maximum persuasive force for others.

Trial itself is little more than a drama played to the climax. The Soviet judges may see possibilities in the situation which the police administrators and prosecutors have missed; in any case, they play a vital part in the drama in summing up against the accused, and they have some discretion in pronouncing sentence. In certain categories, of course, including crimes more specifically attacking the State, there is a wide system of courts martial which may try civilians as well as military personnel. These crimes specifically include espionage, treason, subversion and the like. A similar system (where it is not a part of the court martial system) extends to prison camps of all kinds, including prisoner-of-war camps. Of interest is the fact that these courts though "martial" are not created by or responsible to the Army; they are a separate branch of the Soviet court system, directed by the USSR Supreme Court. Their mandate, however, seems to be the same as in the case of other courts.<sup>9</sup>

The reader will have noticed many points of similarity between the Soviet system and the procedure in the fifteenth and sixteenth centu-

ries of the courts of the Inquisition<sup>10</sup> though under the Inquisition the accused had a residual right which finds no counterpart (so far as I know) in Communist doctrine. He had an absolute privilege, frequently well guarded, to seek salvation by abjuring error, confessing his sins, becoming reconciled with the Church, with access to the mercy of God. Apparently all that an accused under the Communist system can do is to seek to convince the police that he can become useful in some fashion (perhaps by being condemned) to the State and its revolutionary purposes. Any dealing he may have (if it can so be described) with the police and administrative authority prior to trial or with his judges in court, really represents little more than an endeavor to show that leniency to him in the frame of mind which he has attained will be more useful than his death or other punishment. To give him opportunity for a drama of self-justification on the eve of condemnation would be merely absurd.

This statement is made subject to the preliminary reservation noted above. At the trial of the Poznan demonstrators they were permitted just this opportunity for defense, and for justification. But it is not clear whether this was done because of the new doctrine of rights of the accused, or because in the explosive condition of Polish public opinion such a policy appeared politically useful.

Essentially, the Communist legal system in this respect approximates the situation in other legal systems in States where Church and State are combined, and where the law and procedures are assimilated to and governed by ecclesiastical and religious practice. The difference lies in the fact that the Communist system, being materialist, discards any external or transcendental criteria: doctrine is made by the Communist Party of which the State is an expression; there can be, therefore, no principle, let alone law, superior to it. Police, administrative officials and Courts are obliged to adapt the "law" (meaning thereby decrees and regulations, and so forth)<sup>11</sup> to this doctrine, and to handle the accused accordingly. Leaving out the transcendental element, the Communist legal system is probably merely a new version of the practice prevailing in trial of crimes against the State under the Byzantine Empire (in which the Emperor was also dominant in the Church) and of the actual though less rationalized practice in many political cases under the Czarist Empire.<sup>12</sup>

The foregoing also account for the process of indoctrination applied,

more or less systematically, to anyone who has been outside the sweep of the totalitarian Communist State. Great units of the Soviet Army, returning from conquest of East Germany and Mid-Europe, when they returned to Russia were not at once demobilized. They were sent to special camps for "reindoctrination". They had lived outside the Communist-dominated complex; they had had contact with and had acted in the non-Communist West; they were, therefore, by that much, less reliable instruments in forwarding the interests and policies of the Soviet State; they must, accordingly, be isolated for a time and instructed intellectually and emotionally before resuming life within Communist society.

Though I yield to Dr. Harold Wolff and to Dr. Lawrence Hinkle on this point, my information is that the legal doctrine summarized above is applied to prisoners of war, as also to political prisoners in Soviet concentration camps. In our Western system, prisoners of war are locked up merely to prevent them from further fighting. Under the Communist system, prisoners of war constitute a body of individuals criminal by hypothesis because they have fought against the Revolution. Some, if not all, may be made useful to the State (within Communist countries) or to the Revolution (if they find their way home). Such uses will vary. From some, useful military information can be obtained. Others may be utilized to broadcast propaganda. Still others may be induced to "confess" or otherwise manufacture evidence in support of some political campaign—for instance, such evidence was manufactured to buttress the false charge that Americans were using "germ warfare" in the Korean conflict. Attempt may be made to convert some prisoners into Communist agents, then to be released for work in their own countries. Merely releasing prisoners of war if they are still opponents would, under Communist doctrine, be an act of stupidity—unless, of course, some political or diplomatic advantage is thereby secured. Ideally, all of them should be converted into active instruments of the Revolution and then put to work in some fashion.<sup>13</sup>

Here another ancient conception seems to emerge. Though opposition to the Revolution is a crime in itself, the crime is mitigated where the opponent has had no real opportunity to understand the Communist ideal. On the other hand, if the opponent has been in a Communist society, and especially if he has been himself a Communist but has deviated or defected, then he is in the position of a man who has

consciously chosen to be, in that ideology, a "criminal" or reculant. He is, therefore, less likely to be or become a trustworthy instrument or supporter of the State or (outside Communist States) of the Revolution. In the absence of unusual circumstances, he had best be liquidated. Well, Christians and Mohammedans in their time alike have made the distinction between the pagan unconverted, and the heretic.

Two observations remain to be made.

The first is that a large area of the Soviet legal system is "administered," which means it never gets into the courts at all.<sup>14</sup> Since there is no distinction between public and private interests, the administrative authority (which also has a limited right to imprison) leaves the individual about where he would be if in our system the local police chief or the local revenue collector could settle all matters. Indeed in these matters the administration bears some analogy to procedure in our Internal Revenue System—if you eliminate the crucial difference that here a taxpayer can appeal to the courts against the collector's finding, whereas under the Soviet "administrative" penal system he can not. In both cases the administrative officials observe the individual's conduct, carry out an investigation, examine into his affairs, make up their minds preliminarily, call in the individual and demand information from him, and make their decision.

With or without access to a court, the power of the police and prosecuting authorities over the accused is usually determinative. In the "Recollected Cases" of Professor Boris Konstantinovskiy, a Soviet lawyer,<sup>15</sup> conviction of one man, who appeared innocent of the crime alleged, was obtained because a scapegoat was needed to calm popular indignation against a shortage of bread; another justified complaint was dismissed because the complainant was the daughter of a White Guard officer. Both cases were later reopened by the courts because the advocate persuaded the prosecuting officers that the action taken did not tend to assist the socialist fabric. In matters under administrative jurisdiction, persuading the police and prosecutor appears to be the only remedy.

The foregoing observations state the declared theory. In practice there are, unquestionably, human lapses in the direction of kindness, compassion and personal consideration. These, however, entail risk. Prosecuting officers and police are subject to check and control; special proceedings are provided for disciplining judges whose official acts

fail (because of undue leniency, severity or otherwise) to fulfill the requirements of Communist policy. Konstantinovsky reports the case of a judge who told him that he could not acquit or show leniency because of this control; and the writer has been told of cases in which Soviet police made the same observation to a prisoner.

Given the premises of the Soviet legal system, it is difficult to see how any other result could be expected.

*N O T E S*

1. Quoted in Gsovski, Vladimir: *Social Civil Law*. Vol. 1, p. 160 (Ann Arbor, Michigan, 1948).
2. *Ibid.* Vol. 1, p. 162. As this dogma was published in *IZVESTIA* November 24, 1925, it had almost the effect of an official decree.
3. "Soviet Legal Philosophy." Translated by Hugh W. Babb. p. 424 (Cambridge, Massachusetts, Harvard University Press, 1951). This was the report of S. A. Golunsk and M. S. Strogovich.
4. See Schlesinger, Rudolf: *Soviet Legal Theory*. p. 106 (New York: Oxford University Press, 1945). The same writer also quotes (pp. 200, 201) Vyshinsky as saying that "revolutionary legality" contains oppressive elements, "... but also educational elements which are lacking in Bourgeois legality and which create a new discipline . . . it is not negative, but also aims to instil socialist habits."
5. "Soviet Legal Philosophy." Translated by Hugh W. Babb. p. 211.
6. *Ibid.* p. 214.
7. In a famous Communist Party conference of 1938, Vyshinsky, now dominant in the Stalinist hierarchy, attacked Pashukanis for "deviation" in a number of respects. Particularly he repudiated the theory that an accused who had committed a crime could "bargain" with the State to reach an arrangement for compensation or expiation. But he did not attack the idea that the accused could attain a kind of "redemption" by being made useful to Socialist policy.
8. Gsovski, Vladimir: *op. cit.* Vol. 1, p. 188.
9. Gsovski, Vladimir: *op. cit.* Vol. 1, pp. 841-842.
10. Lea, H. C.: *History of the Spanish Inquisition in the Middle Ages*. Even the transcript of the interrogation of an accused under torture closely approximates the accounts of interrogations of political prisoners or prisoners of war under Communist procedure. Inquisitorial courts also considered themselves obliged to endeavor to assure the accused's "conversion" though in doctrine they were dealing with the state of his soul rather than with his terrestrial body and activities.
11. This is what the phrase "revolutionary legality" means. Bukharin thought "revolutionary legality" meant an end to any arbitrary administration; others whose views prevailed (Bukharin was later executed for treason) believed that the problem of expediency in conducting the revolution must always predominate over the form of law. Vyshinsky in 1935 insisted that the formal commands of law must always be subordinated to those of Communist Party policy (Gsovski. *op. cit.* Vol. 1, pp. 162-163) and legal practice seems to have followed this dictate.
12. Description of the Russian Imperial procedure may be found in the autobiography of Prince Kropotkin (himself a political prisoner in Czarist Russia).
13. The Communist doctrine that opposition is itself a crime also antedates the Revolution. Genghis Khan promulgated the doctrine that God had given him the earth and any opposition to him was

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*ipso facto* violation of God's will. His Mongolian armies overran Russia about 1240, and in the form of the "Golden Hordes" they continued as rulers of Russia until about 1480. Their Khans carried forward the doctrine. Its convenience to a dictatorial government is obvious. The extent of Tartar influence on Russian thought and practice is matter of dispute, but it is difficult to believe (Lenin had Tartar blood) that it does not enter as an appreciable element into Russian folkways under Communist as well as under preceding systems.

14. Gsovski, Vladimir: op. cit. Vol. 1, pp. 238-245. In these cases there is no established method of procedure; sentence

may be for confinement to a labor camp up to five years, exile to a particular locality, or banishment. Administrative authorities may make an arrest on any criminal charge, convert that charge into a charge under their jurisdiction, and sentence the accused without his ever appearing before a court at all. This is the jurisdiction of the OGPU, CHEKA, NKVD, MVD (all signifying secret police), administered by the Secretary of Interior.

15. "Soviet Law in Action: The Recollected Cases of a Soviet Lawyer." Boris A. Konstantinovsky (Translated by H. J. Berman, Harvard University Press, 1953) especially p. 3, ff.

September 1957, Vol. 33, No. 9

## SECTION ON MICROBIOLOGY\*

## ABSTRACTS OF PAPERS

Presented at the Meeting, February 20, 1957, at The New York Academy of Medicine

*Steroid-Protein Conjugates*

## I. PREPARATION AND CHARACTERIZATION

BERNARD F. ERLANGER, F. BOREK, S. M. BEISER AND S. LIEBERMAN

Departments of Microbiology, Biochemistry, and Obstetrics and Gynecology,  
College of Physicians and Surgeons, Columbia University, New York

The aim of the work described herein was to prepare steroid-containing substances capable of eliciting the formation of antibodies specific for the steroid moiety. The possibility of rendering low molecular weight steroids antigenic by coupling them to proteins was suggested by the investigations of Landsteiner.<sup>1</sup> Three steroid-protein conjugates were prepared by the interaction of bovine serum albumin (BSA) with derivatives of testosterone and cortisone. The three coupling derivatives used were testosterone 17-chlorocarbonate (I), testosterone 3-(O-carboxymethyl)oxime (II), and cortisone 21-hemisuccinate (III). T-17-BSA resulted from the coupling of (I) with BSA; T-3-BSA from (II) with BSA and C-21-BSA from (III) with BSA. All conjugates were freed of unbound or loosely bound steroid by repeated precipitation in the presence of 70 per cent aqueous acetone.

Indirect methods were used to determine the extent of steroid substitution, since hydrolytic procedures produced extensive destruction of the conjugates. Estimates of the number of steroid residues introduced were based upon ultraviolet absorb-

ence data in the 240-50 m $\mu$  spectral region, determination of the number of free amino groups by the Van Slyke amino nitrogen determination, and by determination of the number of unsubstituted epsilon amino groups by Sanger's dinitrophenylation techniques.<sup>2</sup> The results are shown in Table I.

Electrophoretic and infrared spectral evidence were consistent with the properties of a molecule in which the steroid residues are linked to bovine serum albumin by amide bonds.

TABLE I

Conjugate	Amino Nitrogen	Ultraviolet Spectra	Dinitro-phenylation
T-17-BSA	27	27	36
T-3-BSA	30	41	36
C-21-BSA	26	22	34

## REFERENCES

1. Landsteiner, K. *The specificity of serological reactions*. Rev. ed. Cambridge, Mass., Harvard University Press, 1945.
2. Sanger, F. The free amino groups of insulin, *Biochem. J.* 39:507-15, 1945; and Sanger, F. The terminal peptides of insulin, *ibid.* 45:563-74, 1949.

\* A. M. Pappenheimer, *Chairman*  
Beatrice C. Seegal, *Secretary*



*Steroid-Protein Conjugates*

II. IMMUNOCHEMICAL AND ENDOCRINOLOGIC INVESTIGATIONS

S. M. BEISER, F. J. AGATE, JR., B. F. ERLANGER  
AND S. LIEBERMAN

Departments of Microbiology, Anatomy, Biochemistry, and  
Obstetrics and Gynecology, College of Physicians  
and Surgeons, Columbia University, New York

Alum-precipitated suspensions of T-17-BSA, T-3-BSA, and C-21-BSA were found to be antigenic when injected intravenously into rabbits. Each of the antisera precipitated with BSA and with the steroid-protein conjugates. The antisera were therefore absorbed with BSA prior to the studies reported below.

All three antisera were shown to contain antibodies with steroid specificity by two methods: 1) specific precipitation with the steroid-protein antigens, and 2) hapten-inhibition using soluble steroid derivatives.

T-17-BSA and C-21-BSA cross-reacted almost completely as studied by cross-precipitation and cross-hapten-inhibition, that is, C-21-BSA precipitated with both anti-T-17-BSA and anti-C-21-BSA. Both antisera also precipitated with T-17-BSA. In addition, testosterone-17-succinate and cortisone-21-succinate inhibited precipitation between these two antisera and the homologous and

heterologous antigens. The specificities of anti-T-17-BSA and anti-C-21-BSA thus appear to be similar.

Anti-T-3-BSA was primarily specific for T-3-BSA and precipitated only slightly with T-17-BSA and C-21-BSA. The hapten-inhibition tests confirmed these results. Testosterone-3-(O-carboxymethyl)oxime inhibited the reaction between T-3-BSA and anti-T-3-BSA, while testosterone-17-succinate and cortisone-21-succinate were ineffective in inhibiting precipitation.

Neither T-17-BSA nor T-3-BSA were androgenic when tested in rats. The seminal vesicles and prostates of castrated rats implanted with pellets containing testosterone were smaller when these animals received injections of anti-T-17-BSA than when normal serum was injected. It would appear, therefore, that anti-T-17-BSA acts as an anti-hormone.

*Nutritional and Genetic Determinants in  
Experimental Acute Disseminated Encephalomyelitis in Mice*

HOWARD A. SCHNEIDER AND JOHANNA M. LEE

Rockefeller Institute for Medical Research, New York

Present methods of experimentally producing acute disseminated encephalomyelitis in mice are based on a residue of empirically derived operations. The first goal of these operations is to produce the affection as simply, quickly and certainly as possible. Thus, for mice, it is now possible to specify the manipulations leading to the production of encephalomyelitis in 100 per cent of such attempts. These specifications now include 1) the use of a susceptible homozygous genotype of mouse, the BSVS strain; 2) the preparatory intraperitoneal injection of *Hemophilus pertussis* vaccine; and 3) the intracutaneous injection of two spaced doses of homologous or heterologous brain proteolipide in a mineral oil-killed tubercle bacilli adjuvant.

It is now evident that further explication is possible in the instance of the first specification above, i.e., that the host genotype be a susceptible one. It can be shown that

this phenotypic susceptibility is nutritionally dependent. The BSVS mouse is 100 per cent susceptible when it is on a laboratory stock regimen of commercial fox chow pellets, whole wheat bread and milk. However, when the BSVS mice were fed a "synthetic" diet, containing a minimal list of vitamins adequate for growth and maintenance, susceptibility was reduced to 15 per cent. Supplementation of the "synthetic" diet with biotin, folic acid, and vitamin B<sub>12</sub> restored susceptibility to a frequency of 70 per cent. Increasing the supplements tenfold had no further effect in restoring susceptibility frequencies to the 100 per cent level.

Folic acid and vitamin B<sub>12</sub> were equally effective as single supplements and equivalent to the triple vitamin supplement. The effect of single biotin supplementation was less.

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SEE FOLLOWING PAGES FOR PROGRAM

POSTGRADUATE WEEK PROGRAM—OCTOBER 7 to 11

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EVENING LECTURES — 8:30 P.M.

OCTOBER

7th

THE STRUCTURE AND DEVELOPMENT OF VIRUSES  
REVEALED BY THE ELECTRON MICROSCOPE

Councilman Morgan, *College of Physicians and Surgeons, Columbia University*

IMPLICATIONS OF 60 NEWLY RECOGNIZED VIRUSES  
OF MAN

Robert J. Huebner, *National Institutes of Health, Bethesda, Md.*

CLINICAL ASPECTS OF VIRAL DISEASES

Robert Ward, *New York University College of Medicine*

8th

ASPECTS OF CARBOHYDRATE AND PHOSPHATE  
METABOLISM IN DIABETES

William C. Stadie, *University of Pennsylvania School of Medicine*

FAT METABOLISM IN DIABETES

Vincent P. Dole, *The Rockefeller Institute for Medical Research*

MODERN ASPECTS OF THE DIABETES PROBLEM

Garfield G. Duncan, *University of Pennsylvania School of Medicine*

9th

DISTURBANCES OF AMINO ACID METABOLISM

L. Emmett Holt, Jr., *New York University College of Medicine*

CONNECTIVE TISSUES IN MEDICINE AND SURGERY

Jerome Gross, *Harvard Medical School*

CURRENT CONCEPTS OF THE HOMOPLASTY ENIGMA

Richard B. Stark, *College of Physicians and Surgeons, Columbia University*

(Continued on next page)

POSTGRADUATE WEEK PROGRAM — *continued*

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EVENING LECTURES — 8:30 P.M. — *continued*

OCTOBER

- 10th POTASSIUM AND THE KIDNEY  
Gilbert H. Mudge, *The Johns Hopkins University School of Medicine*
- RENAL TUBULAR DYSFUNCTION IN CONGESTIVE HEART FAILURE  
Louis Leiter, *College of Physicians and Surgeons, Columbia University*
- RENAL EXCRETION OF URIC ACID IN GOUT: MODIFICATION BY URICOSURIC AGENTS IN TREATMENT  
Alexander B. Gutman, *College of Physicians and Surgeons, Columbia University*
- 11th CURRENT VIEWS ON THE BIOCHEMISTRY AND PHYSIOLOGY OF MYOCARDIAL CONTRACTION  
H. Mead Cavert, *University of Minnesota Medical School*
- PHYSIOLOGY OF HYPOTHERMIA  
James E. Eckenhoff, *University of Pennsylvania Schools of Medicine*
- THE PRESENT STATUS AND THE PROBABLE DIRECTION OF FUTURE DEVELOPMENTS IN OPEN CARDIOTOMY IN THE CORRECTION OF CARDIAC DEFECTS  
John H. Gibbon, Jr., *The Jefferson Medical College*
- 

PANEL MEETINGS — 3:30 P.M.

- 7th THYROID DISEASE  
Chairman: Rulon W. Rawson, *Memorial Center for Cancer and Allied Diseases*
- 8th ADRENAL GLAND AND ADRENAL TUMORS  
Chairman: Joseph W. Jailer, *College of Physicians and Surgeons, Columbia University*
- 9th MODERN ASPECTS OF HEMATOLOGY  
Chairman: Irving M. London, *Albert Einstein College of Medicine, Yeshiva University*
- 10th PRACTICAL APPLICATION OF RADIOACTIVE METALS  
Chairman: Lee E. Farr, *Brookhaven National Laboratory Hospital*
- 11th BLOOD PROTEINS  
Chairman: Henry G. Kunkel, *The Rockefeller Institute for Medical Research*

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MONTHLY PANEL MEETINGS FOR THE GENERAL PHYSICIAN

Sixth Series — 1957-1958

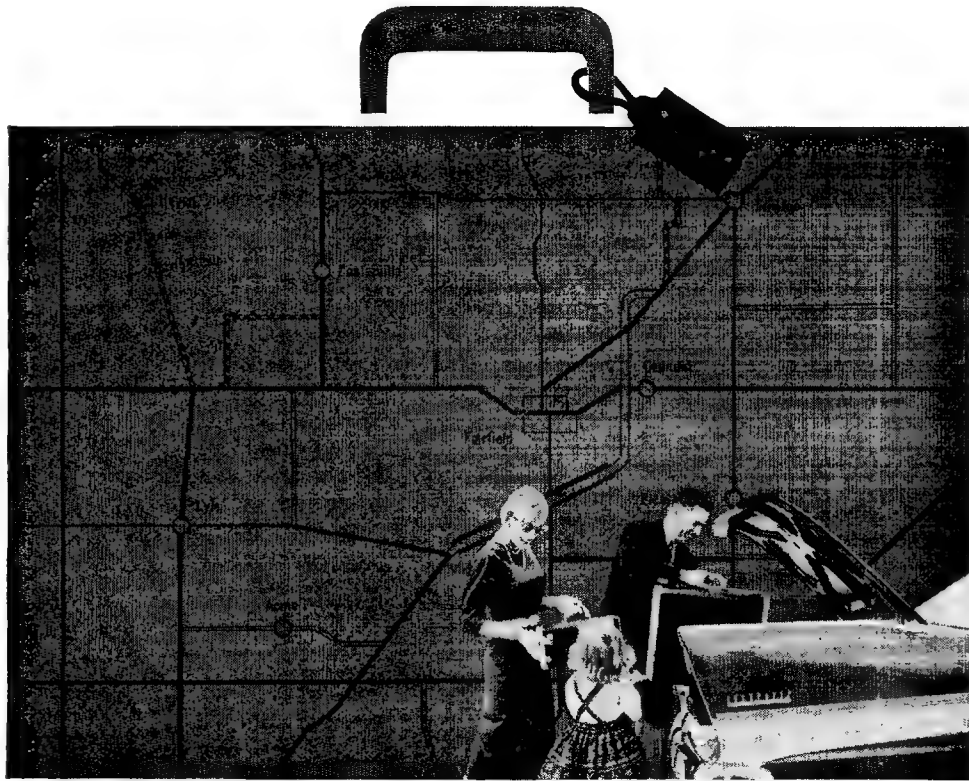
*(Please Note: For the coming academic year these meetings  
will be held on the SECOND TUESDAY of the month,  
November 1957 through April 1958, at 4:30 p.m., in Room 20  
at the Academy.)*

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TUESDAY November 10 1957	MANAGEMENT OF PATIENTS WITH ANGINA <i>Moderator: CHARLES E. KOSSMANN</i>
TUESDAY December 12 1957	MANAGEMENT OF SURGICAL CONDITIONS OF THE ALIMENTARY TRACT IN INFANCY <i>Moderator: GEORGE H. HUMPHREYS II</i>
TUESDAY January 14 1958	RECENT ADVANCES IN THE TREATMENT OF THE SPRUE SYNDROME <i>Moderator: THOMAS P. ALMY</i>
TUESDAY February 11 1958	COMMON UROLOGICAL PROBLEMS IN GENERAL PRACTICE <i>Moderator: VICTOR F. MARSHALL</i>
TUESDAY March 11 1958	MANAGEMENT OF HEMORRHAGIC STATES <i>Moderator: To be announced</i>
TUESDAY April 8 1958	EVALUATION AND MANAGEMENT OF FATIGUE <i>Moderator: To be announced</i>

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Rehfuss, M. E., and Price, A. H.: A Course in Practical Therapeutics, ed. 3, Baltimore, The Williams & Wilkins Company, 1956, p. 534.

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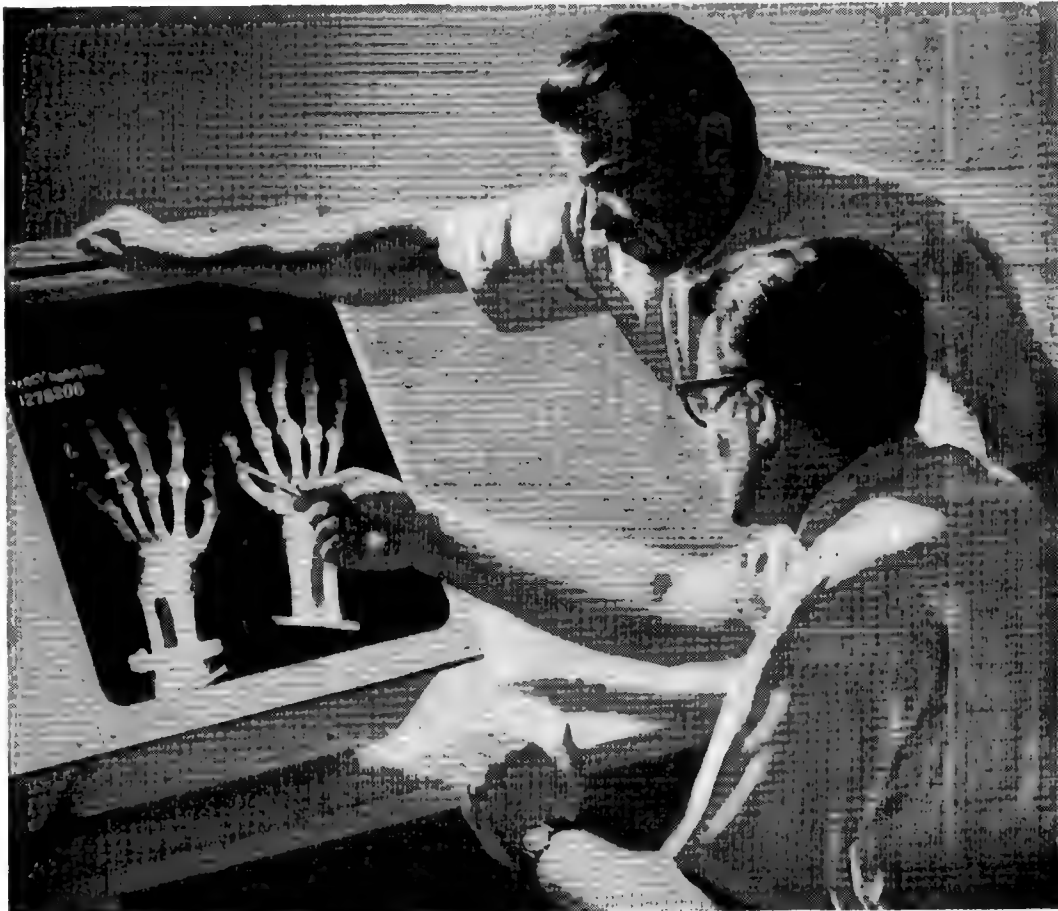
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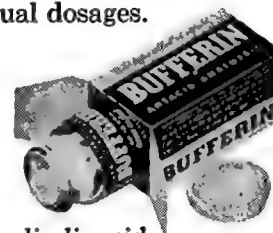
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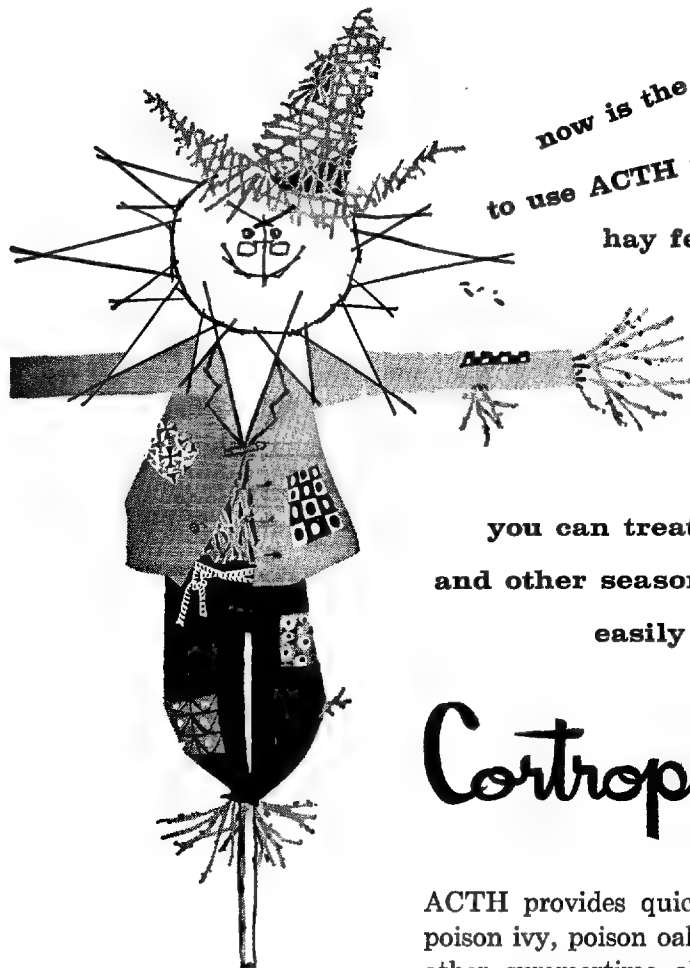
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*Each sodium-free BUFFERIN tablet contains acetylsalicylic acid 5 grains, and the antacids magnesium carbonate and aluminum glycinate.*

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hay fever sufferers

you can treat HAY FEVER  
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easily with

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**Cortrophin<sup>\*</sup>-Zinc<sup>†</sup>** an Organon development



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CPYRGHT

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## Relieves vasospasm—increases walking distance



DEPROTEINATED PANCREATIC EXTRACT

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XXI

THE BULLETIN

## SECTION ON MICROBIOLOGY

THE NEW YORK ACADEMY OF MEDICINE

### PUBLISHED SYMPOSIA \*

SYMPOSIUM NO. 1

Diagnosis of Viral and Rickettsial  
Infections

Frank L. Horsfall, Jr., *Editor*

1949 .....\$3.75

SYMPOSIUM NO. 5

Nature and Significance of the Antibody  
Response†

A. M. Pappenheimer, Jr., *Editor*

1953 .....\$5.00

SYMPOSIUM NO. 2

Evaluation of Chemotherapeutic Agents  
Colin M. MacLeod, *Editor*

1949 .....\$4.00

SYMPOSIUM NO. 6

The Effect of ACTH and Cortisone upon  
Infection and Resistance

Gregory Schwartzman, *Editor*

1953 .....\$5.50

SYMPOSIUM NO. 3

The Pathogenesis and Pathology of Viral  
Diseases

John G. Kidd, *Editor*

1950 .....\$5.00

SYMPOSIUM NO. 7

Streptococcal Infections

Maclyn McCarty, *Editor*

1954 .....\$5.00

SYMPOSIUM NO. 4

Parasitic Infections in Man  
Harry Most, *Editor*

1951 .....\$4.50

SYMPOSIUM NO. 8

Cellular Metabolism and Infections  
E. Racker, *Editor*

1955 .....\$4.80

\* Symposia Nos. 1-7, inclusive, were published by Columbia University Press, 2960 Broadway, New York 27, N. Y.

Symposium No. 8 was published by Academic Press, Inc., 125 East 23 Street, New York 10, N. Y.

All Symposia may be obtained by applying directly to the publishers indicated.

† Out of print.

SEPTEMBER 1957

XXII

## PICK THE PIPERIDOL BEST FOR YOUR PATIENT



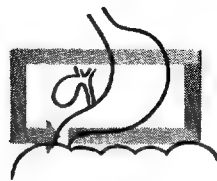
for pain  $\rightleftharpoons$  spasm  
of the upper G.I. tract

capsule

**DACTIL®**

Brand of Piperidolate HCl

*visceral autonomic*  
relieves gastroduodenal  
and biliary pain  $\rightleftharpoons$  spasm  
—usually in 10 minutes



for peptic ulcer

tablet

**PIPTAL®**

Brand of Pipenzolate  
Methylbromide

*cholinolytic*  
normalizes motility  
and secretion; prolongs  
remissions, curbs  
recurrences



for generalized  
G.I. disorders

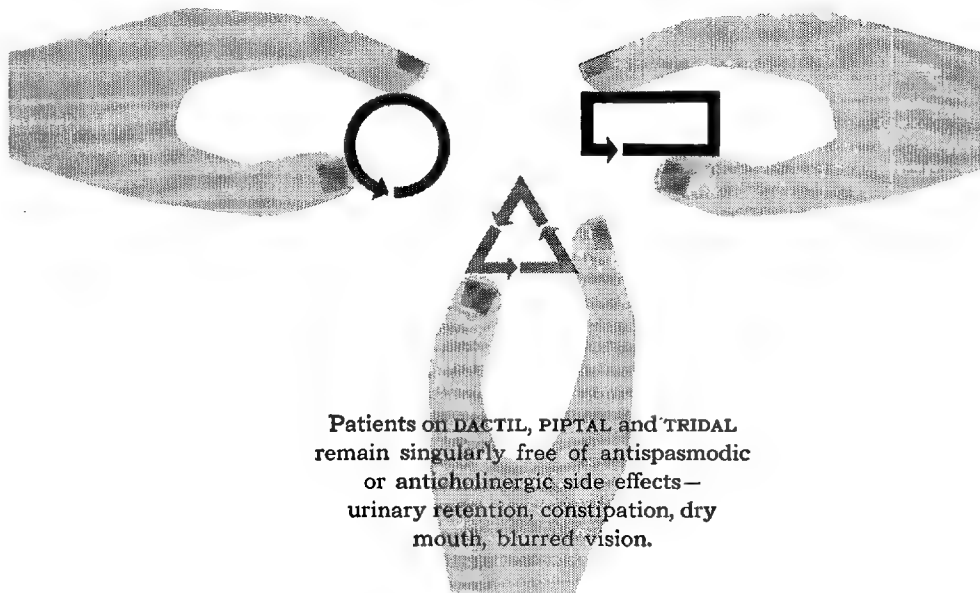
tablet

**TRIDAL®**

(DACTIL + PIPTAL—in one tablet)

rapid, prolonged relief  
throughout  
the G.I. tract

 **LAKESIDE**



XXIII

THE BULLETIN

**EVERY WOMAN  
WHO SUFFERS  
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natural, oral  
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*For acidosis due to anesthesia — edema*

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**Counter-Acts**

**ANTI-BIOTIC  
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*For acidosis due to nausea — in nephritis*

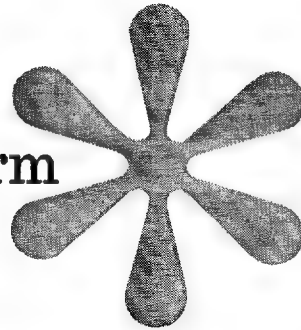
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XXIV

now in cream form



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*comprehensive control of skin disorders*

infectious dermatoses • contact dermatitis • atopic dermatitis • nonspecific pruritus



combats infection  
reduces inflammation  
controls itching  
promotes healing

STEROSAN®-Hydrocortisone (3% chlorquinaldol GEIGY with 1% hydrocortisone) Cream and Ointment. Tubes of 5 Gm. Prescription only.  
*and when a nonsteroid preparation is preferred STEROSAN® (chlorquinaldol GEIGY) 3% Cream and Ointment. Tubes of 30 Gm. and jars of 1 lb. Prescription only.*

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for food, subtly elevates the mood.

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Hydrochloride Tablets 5 mg., scored



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XXVI



**You trust  
its quality**



# **announcing**

# **MARSILID**

(Iproniazid) 'Roche'

Marsilid 'Roche' is a psychic energizer — the very opposite of a tranquilizer. It is useful not only for mild and severe depression but for stimulation of appetite and weight gain, and in chronic debilitating disorders.

**Q. What is Marsilid?**

**A.** Marsilid (iproniazid) is an amine oxidase inhibitor which affects the metabolism of serotonin, epinephrine, norepinephrine and other amines.

**Q. How does Marsilid act?**

**A.** Marsilid has a normal eudaemonic\* rather than an abnormal euphoric effect; it promotes a feeling of well-being and increased vitality; it restores depleted energy and stimulates appetite and weight gain in chronic debilitating disorders.

**Q. How soon is the effect of Marsilid apparent?**

**A.** Marsilid is a slow-acting drug. In mild depression it usually takes effect within a week or two; in severe psychotics, results may be apparent only after a month or more.

**Q. What are the indications for Marsilid?**

**A.** Mild depression in ambulatory, non-psychotic patients; psychoses associated with severe depression or regression; stimulation of appetite and weight gain in debilitated patients; chronic debilitating disorders; stimulation of wound healing in draining sinuses (both tuberculous and non-tuberculous); adjunctive therapy in rheumatoid arthritis when associated with depressed

\*Eudaemonia is a feeling of well-being or happiness; in Aristotle's use, felicity resulting from life of activity in accordance with reason.

## **a psychic energizer**

**(the opposite of a tranquilizer)**

psychomotor activity (Marsilid stimulates physical and mental activity, appetite and weight gain without objective joint changes).

**Q. What is the dosage of Marsilid?**

**A.** The daily dose of Marsilid should not exceed 150 mg (50 mg t.i.d.). In patients who are not hospitalized, the dosage should be reduced after the first 8 weeks to an average of 50 mg daily or less, for Marsilid is a cumulative drug. Like all potent drugs, Marsilid requires careful individual dosage adjustment.

**Q. What are the potential side effects of Marsilid?**

**A.** Side effects due to Marsilid are reversible upon reduction of dosage or cessation of therapy. It may cause constipation, hyperreflexia, paresthesias, dizziness, postural hypotension, sweating, dryness of mouth, delay in starting micturition, and impotence.

**Q. When is Marsilid contraindicated?**

**A.** Marsilid is contraindicated in overactive, overstimulated or agitated patients. Marsilid therapy should be discontinued two days before the use of ether anesthesia. It should not be given together with cocaine or meperidine. In patients with impaired kidney function, Marsilid should be used cautiously to prevent accumulation. Marsilid is not recommended in epileptic patients.

**Q. How is Marsilid supplied?**

**A.** Marsilid is supplied in scored 50-mg, 25-mg and 10-mg tablets.

MARSILID® PHOSPHATE — brand of iproniazid phosphate (1-isonicotinyl-2-isopropylhydrazine phosphate)

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XXIX

THE BULLETIN

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Jamaica, Queens

White Plains, N. Y.

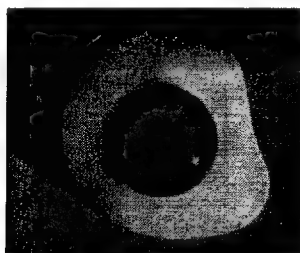
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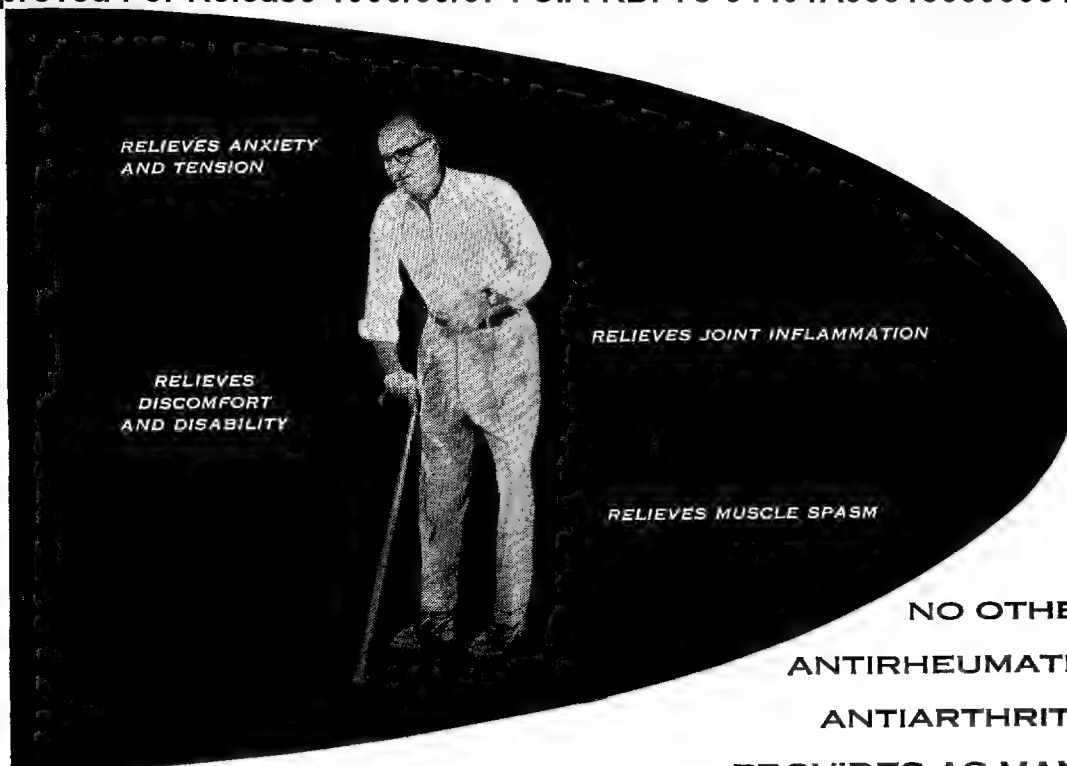
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ANTIRHEUMATIC,  
ANTIARTHRITIC  
PROVIDES AS MANY  
BENEFITS AS

MULTIPLE COMPRESSED TABLETS

# 'MEPROLONE'

MEPRO | BAMATE  
PREDNISO | LONE, *buffered*

Each Multiple Compressed Tablet of 'MEPROLONE' provides the antiarthritic, antirheumatic benefits of:

1. *Prednisolone buffered*—the newest and most potent of the "predni-steroids" for prompt relief of joint pain and arrest of the destructive inflammatory process.
2. *Meprobamate*—the newest and safest of the muscle-relaxant tranquilizers—relaxes accessory musculature in spasm—eases mental tension and anxiety, so often manifest in patients with rheumatic, arthritic disorders.

**Indications:** Rheumatoid arthritis, rheumatoid spondylitis, Still's disease, psoriatic arthritis, tenosynovitis, myositis, fibrositis, intractable asthma, respiratory allergies, allergic and inflammatory eye and skin disorders.

**Dosage:** 1 or 2 tablets 3 or 4 times daily.

**Supplied:** Multiple Compressed Tablets in bottles of 100 in two formulas as follows: 'MEPROLONE'-1—1.0 mg. of prednisolone, 200 mg. meprobamate and 200 mg. dried aluminum hydroxide gel. 'MEPROLONE'-2—provides 2.0 mg. of prednisolone in the same formula.

'MEPROLONE' is a trade-mark of Merck & Co., Inc.

THE ONLY  
ANTIRHEUMATIC,  
ANTIARTHRITIC  
THAT SIMULTANEOUSLY  
RELIEVES:  
1. MUSCLE SPASM  
2. JOINT INFLAMMATION  
3. ANXIETY AND TENSION  
4. DISCOMFORT  
AND DISABILITY



MERCK, SHARP & DOHME  
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XXXI

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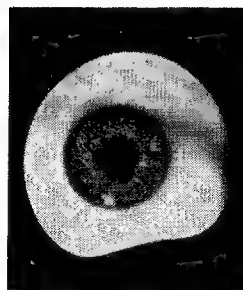
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"MEDIATRIC"  
CAN EXPECT  
A HEALTHIER,  
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"SECOND FORTY  
YEARS"**

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## 24 steps to a hospital bed

The commonest task, such as climbing a flight of stairs, confronts the angina pectoris patient with a fearful question: "*Will I be able to make it?*"

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**Usual Dosage:** A continuous schedule of 10 to 20 mg. *before meals* and at bedtime.

**Peritrate®**  
(brand of pentaerythritol tetranitrate)

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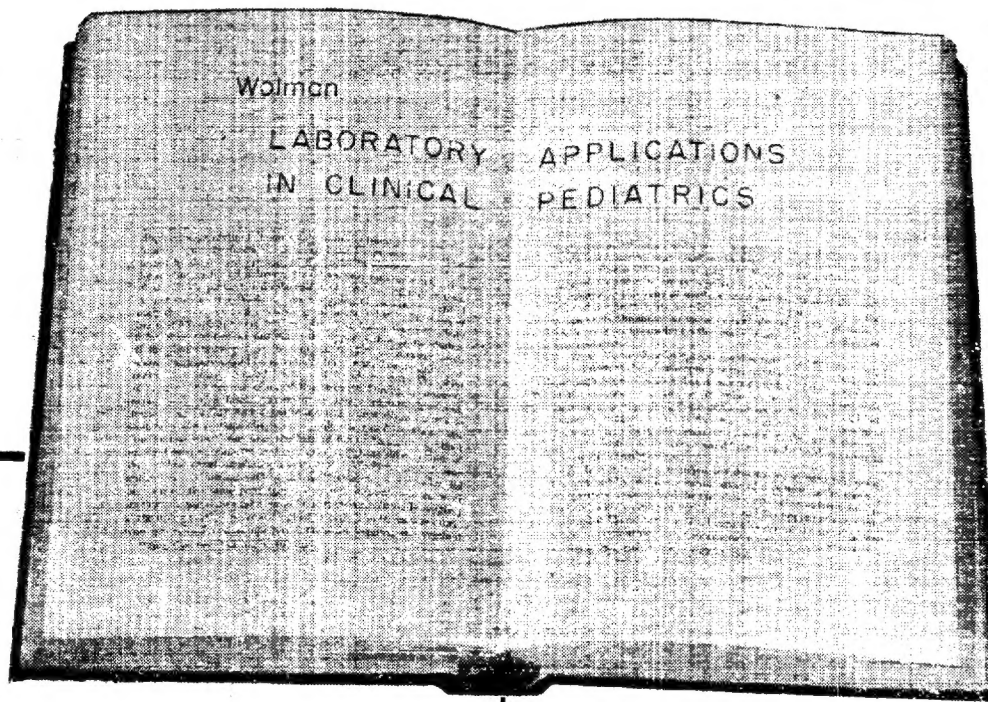


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**NEW . . . COMING OCTOBER****LABORATORY APPLICATIONS IN CLINICAL PEDIATRICS**

By IRVING J. WOLMAN, M.D.

Associate Professor of Pediatrics, University of Pennsylvania, School of Medicine



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As the author states in the Preface, "Most of the diseases are presented under the spe-

cific approaches most likely to uncover abnormal findings." Thus the doctor, in looking for help from this book, can begin with the symptoms of his pediatric patient. Comments concerning treatment are restricted to situations where *laboratory controls* play a major role.

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This book should prove a valuable reference for general practitioners, pediatricians, laboratory directors, resident physicians, medical students and hospital libraries. It is also an excellent supplement to the standard texts in pediatrics and clinical pathology. Approx. 1,000 pp., 6 x 9, \$15.00.

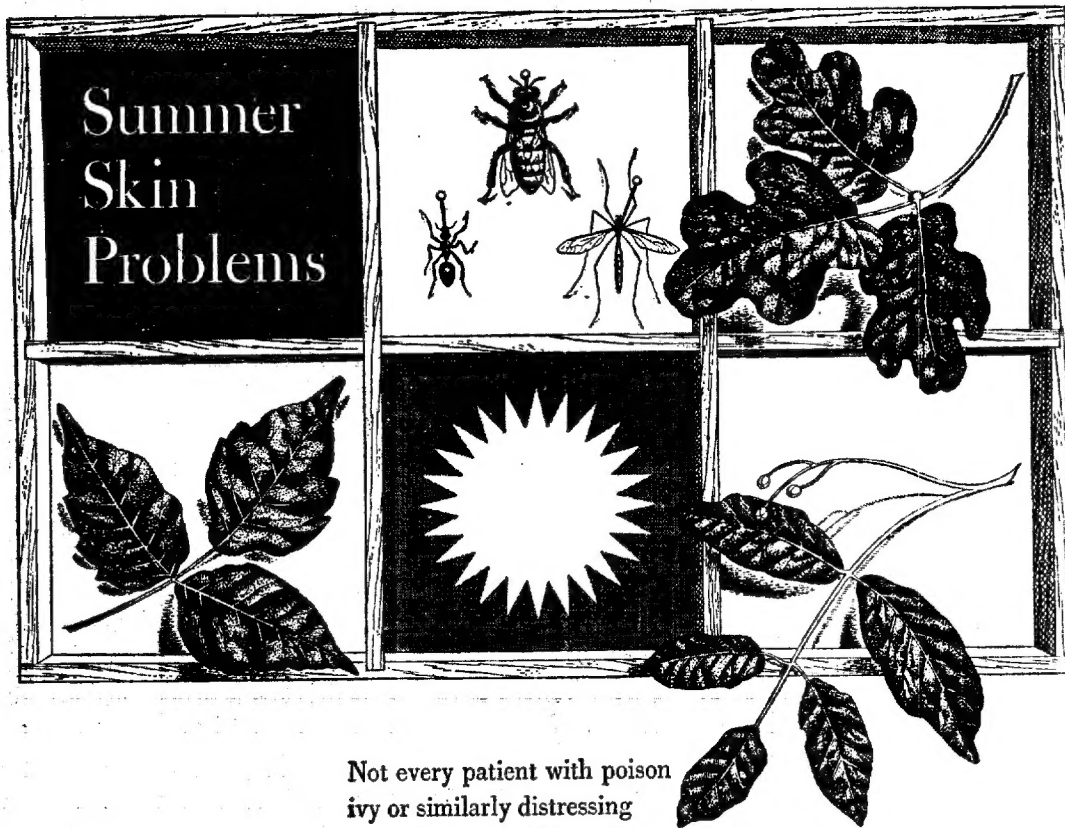
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BULLETIN OF THE NEW YORK ACADEMY OF MEDICINE

VOL. 33, NO. 9, PAGES 687-660



Not every patient with poison  
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Those who do deserve this effective treatment  
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